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DETAILED SITE INVESTIGATION - ASPECT INDUSTRIAL ESTATE

Aspect Industrial Estate, Mamre Road, Kemps Creek, NSW 2178 – Rev 2 Final

Prepared for Mirvac Projects Pty Ltd

09 OCTOBER 2020

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DETAILED SITE INVESTIGATION

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Prepared for Mirvac Projects Pty Ltd

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This report has been prepared for Mirvac Projects Pty Ltd in accordance with the terms and conditions in the Consultant Agreement for Lots 54-58 (DP 259135) Mamre Road, Kemps Creek – Phase 2 DSI, FIP, UFP, Dam Decommissioning Strategy, Groundwater Management Plan dated September 24, 2019. Arcadis Australia Pacific Pty Limited (ABN 76 104 485 289) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

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ABBREVIATIONS

Acronym	Definition
° C	Degrees Celcius
AHD	Australian Height Datum
ANZG	Australian and New Zealand Governments
B(a)P	Benzo(a)pyrene
BGL	Below Ground Level
BTEXN	Benzene, Toluene, Ethylbenzene, Xylene and Naphthalene
CCA	Copper Chrome Arsenic
CLM Act	Contaminated Land Management Act (1997)
CoPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DA	Development Application
DYBD	Dial Before You Dig
DGV	Default Guideline Value
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
DQO	Data Quality Objectives
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
ESL	Ecological Screening Criteria
FA	Fibrous Asbestos
GIL	Groundwater Investigation Level
GME	Groundwater Monitoring Event
HAZMAT	Hazardous Materials
HIL	Health Investigation Level
HSL	Health Screening Level
IP	Interface Probe
LDPE	Low-Density Polyethylene

Acronym	Definition
LEP	Local Environmental Plan
LGA	Local Government Area
LNAPL	Light Non-Aqueous Phase Liquid
LOR	Limit-Of-Reporting
MW	Monitoring Well
NAPL	Non-Aqueous Phase Liquid
NATA	National Association of Testing Authorities
NEPM/NEPC	National Environment Protection Measure (2013) / National Environment Protection Council
NSW	New South Wales
NSW EPA	New South Wales Environment Protection Authority
OCP & OPP	Organochlorine & Organophosphorus Pesticides
OEH	Office of Environment and Heritage
PAH	Polycyclic Aromatic Hydrocarbon
PPM	Parts Per Million
POEO Act	Protection of the Environment (Operations) Act 1997
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percent Difference
SVOC	Semi Volatile Organic Compounds
TOC	Top-Of-Casing
TPH/TRH	Total Petroleum Hydrocarbons / Total Recoverable Hydrocarbons
UFP	Unexpected Finds Protocol
UPSS	Underground Petroleum Storage Systems
USCS	Unified Soil Classification System
UST	Underground Storage Tank
VOCs/SVOCs	Volatile Organic Compounds / Semi-Volatile Organic Compounds

EXECUTIVE SUMMARY

Arcadis Australia Pacific Pty Ltd (Arcadis) was commissioned by Mirvac Projects Pty Ltd (Mirvac) to undertake a Detailed Site Investigation (DSI) of the proposed Aspect Industrial Estate, located at lots 54 to 58 DP259135, Mamre Road, Kemps Creek (the site).

Background

Arcadis Australia Pacific Pty Ltd (Arcadis) was commissioned by Mirvac to undertake a Detailed Site Investigation (DSI) of the proposed Aspect Industrial Estate, located at lots 54 to 58 DP259135 Mamre Road, Kemps Creek (the site). The location of the site and site boundary is provided in Figure 1, **Appendix A**.

The site comprises an approximate area of 56.3 ha and is located within the Penrith City Council Local Government Area (LGA). The site is currently zoned as IN1 General Industrial land within the Broader Western Sydney Employment Area stipulated within State Environmental Planning Policy (Western Sydney Employment Area) 2009 (SEPP WSEA), updated 11 June 2020.

Objective

The objectives of this DSI are to undertake an intrusive investigation to assess issues, concerns or environmental risks and liabilities associated with the present and historical uses of the site and to assess major environmental risks (from a contaminated land perspective) to proposed redevelopment of the site.

Scope

Arcadis prepared a DSI report in general accordance with the NEPC (2013) NEPM and NSW OEH (2011) Guidelines for Consultants Reporting on Contaminated Sites. To appropriately characterise the site, the DSI field work was completed in two phases.

Phase 1 included:

- Excavating 15 test pits and drilling six bore holes, converted to groundwater monitoring wells.
- Appropriate screening for Potential Asbestos Containing Material (PACM) including site walkover and submission of four PACM samples for identification.
- Logging soil in general accordance with the Unified Soil Classification System (USCS).
- Sampling of soil at regular intervals.
- Submission of 46 soil samples of the fill/near surface material (0.1 to 0.3 m bgl) and from the underlying natural material at each location to the NATA accredited laboratory Eurofins (under COC conditions) for analysis of:
  - Total recoverable hydrocarbons (TRH).
  - Benzene, toluene, ethyl benzene, xylenes and naphthalene (BTEXN).
  - Polycyclic aromatic hydrocarbons (PAHs).
  - Eight Priority Heavy Metals (including arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc).
  - Organochlorine/organophosphate pesticides (OCP/OPPs), Polychlorinated Biphenyl (PCBs) – surface soils only.
- Sampling and analysis of six groundwater monitoring wells for: TRH, BTEXN, PAHs, eight heavy metals, OCP/OPPs, PBCs. And Phenolics (total).
- Aquifer hydraulic conductivity testing of two groundwater monitoring wells.
- Sampling and analysis of surface water samples from five on-site dams for analysis of: TRH, BTEXN, PAHs, eight heavy metals, OCP/OPPs, PBCs. and Ppenolics (total).
- Collection and submission of three surface soil samples near timber posts for analysis of eight heavy metals.

Phase 2 scope of works included:

- Collection and analysis of a sediment sample (DS01 – DS05) from each of the five on site dams to characterise the sediment and to evaluate if the dams had been impacted by on site activities.
  - Analysis suite included: TRH, BTEX, PAH, OPP/OCPs, PBCs, and eight heavy metals.
- Hand auger soil samples were collected from 0.05 and 2.0 mbgl at HA01, HA06 and HA18 to vertically delineate heavy metal EIL exceedances recorded in the PSI.
- Augering was unable to be collected from HA13 due to the livestock or at HA08 due to refusal on dense geology.
- Two soil bore holes (HA15B and HA15C) were sampled to vertically delineate TRH contamination recorded at HA15 during the PSI. Six soil bore hole samples were submitted for TRH and BTEX analysis.
- HA15B was sampled to a maximum depth of 0.8 m bgl, while HA15C was sampled to a maximum depth of 0.2 m bgl.
- Five additional soil samples (SO01 to SO02) were collected from timber posts stockpiles to address a creosote data gap and submitted for halogenated and non-halogenated phenol analysis.
- soil samples were logged in general accordance with the USCS and screened with a PID to for VOCs.
- A limited Groundwater Monitoring Event (GME) was conducted on November 27th, 2019, to close a groundwater quality data gap for semi-volatile organics.
- For QA/QC purposes, two soil and one groundwater intra-laboratory and inter-laboratory samples were collected (rate of 1:20), as well as a soil and water trip blank, a trip spike and two equipment rinsate samples.
- Results were assessed against the adopted industrial / commercial assessment criteria (Section 4.0).
- Prepared a DSI report in general accordance with the NEPC (2013) NEPM and NSW OEH (2011) Guidelines for Consultants Reporting on Contaminated Sites.

Results

<u>Soil</u>

- Soil was generally composed of a silty clay topsoil extending from 0.1 to 0.3 m depth, underlain by natural clays from 0.3 to 0.5 m down profile. Natural material undisturbed, except for soils adjacent dams, where re-worked natural material is present, overlying existing topsoil and natural soil sequences. Clay subsoils are underlain by weathered shales.

Exceedances of the adopted assessment criteria included:

- MW02_2.0: Benzo(a)Pyrene – ESL-D.
- HA15B 0.05, 0.15 and 0.6 mbgl: F2 TRH fraction – ESL -D.
  - Depth of contamination was vertically delineated to a maximum depth of 0.8 mbgl.
- HA15B-0.6: TRH fraction C_{10} – C_{16} - ESL – D
- SO01 and SO03: Zn concentrations - EIL
- No potential asbestos contaminated material was observed within the fill and natural soils on site.

<u>Indicative Waste Classification</u>

Indicative waste classification (Section 6.2.1.1) for fill and soils encountered during intrusive works indicate that the fill material may be suitable for disposal as CT1 'General Solid Waste' (GSW) under the NSW EPA (2014) Waste Classification Guidelines, with the exception of the following:

  - SO01: Ni,

- MW02_2.0: Benzo(a)pyrene.

Sediment

Four exceedances of the ANZECC (2000) Interim Sediment Quality Guideline Trigger Values - ISQG-Low were recorded in dam sediments across three dams on site:

- DS01 and DS02: As marginally exceeded
- QA5 (DS02): Pb marginally exceeded
- DS05: Ni concentrations approximately 2x ISQG-Low.

PACM

- No PACM was observed on roads or open paddocks.
- Fragments of PACM on surface soils surrounding buildings reported detectable asbestos.
- Fibre board sheeting (intact) dumped on site did not report to contain asbestos.

Surface Water

- Surface waters reported analytes below the adopted criteria.
- Physico-chemical parameters exceeded the adopted guidelines for pH and EC.

Ground Water

- Groundwater has a moderate electrical conductivity (1,460 to 21,256 µS/cm) and maintains a neutral to slightly acidic pH.
- The hydraulic conductivity of groundwater ranges between 2.03 x 10-1 and 9.02 x 10-2 m/day.

Groundwater exceeded the adopted DGVs and GILs for:

- Cd - MW03 and MW04,
- Cu - MW03,
- Zn - MW02, MW03, MW04 and MW06.

These results are believed to most likely be representative of background values.

Conclusions and Recommendations

Based on the findings of the report, the following conclusion is provided:

- There was no gross or substantial contamination identified at the site;
- To confirm the suitability of the site from a contamination perspective for the proposed development as an industrial estate, the following will be required:
  - Further investigation or management/remediation of the F2 contamination identified at HA15B;
  - Further investigation or management/remediation of the Zn contamination identified at HA06, HA08, HA13 and HA18;
  - The removal of identified surface ACM on Lot 54 and the issuing of a validation report;
  - Appropriate management of asbestos during building demolition;
  - Appropriate management of Zn concentrations at SO01 and SO03 which exceeded the adopted EIL indicating a potential ecological risk.
- No sampling was undertaken within building footprints. An assessment of the building footprints may be undertaken when these locations are accessible.

The following recommendations for the site are made:

- Develop of a RAP for asbestos, Zn and F2 contamination identified, unless risks can be managed via other measures. The RAP is to include provision to managing building footprint validation.

- Surface asbestos requires removal by a licenced asbestos removal contractor and a clearance certificate issued by an appropriately qualified occupational hygienist.
  - Arcadis recommends this work is undertaken after the demolition of on site structures which may contain ACM.
- In the event the buildings be demolished appropriate management of inbuild asbestos will be required. It is recommended to have asbestos removed from the buildings prior to demolition. Validation of the build footprints may still be required.
- The site UFP, developed concurrently with this DSI by Arcadis, is to be implemented during works on site. The UFP is to include visual and/or analytical assessment of the materials below the building footprints after demolition.
- Structures on site and waste material is to be assessed as part of a HAZMAT survey and an asbestos register developed for the site to identify current and potential sources of contamination during development works.
- Arcadis assumes that a Construction Environmental Management Plan (CEMP) will be developed for the proposed works at the site. The CEMP may include the findings of this DSI to appropriately manage the risks identified in the CSM.
- On-site surface water is to be measured after a significant rainfall event and compared to the observations in this DSI, to assess the potential contributions (surface material leaching, groundwater impact, evaporation) to observed water quality for dam dewatering purposes.
- Additional sediment sampling is recommended to be conducted once dams have been dewatering to appropriately characterise the material.

1 INTRODUCTION

1.1 Site and Project Introduction

Arcadis Australia Pacific Pty Ltd (Arcadis) was commissioned by Mirvac Office and Industrial (Mirvac) to undertake a Detailed Site Investigation (DSI) of the proposed Aspect Industrial Estate, located at Lots 54 to 58 DP259135 Mamre Road, Kemps Creek (the site). The location of the site and site boundary is provided in Figure 1, **Appendix A**.

The site comprises an approximate area of 56.3 ha and is located within the Penrith City Council Local Government Area (LGA). The site is currently zoned as IN1 General Industrial land within the Broader Western Sydney Employment Area stipulated within State Environmental Planning Policy (Western Sydney Employment Area) 2009 (SEPP WSEA), updated 11 June 2020.

Mirvac require the following documentation to support a State Significant Development (SSD) application relevant to the site:

- Detailed Site Investigation (DSI).
- Fill Importation Protocol (FIP).
- Unexpected Finds Protocol (UFP).
- Dam Decommissioning Strategy (DDS).
- Groundwater Management Plan (GMP).

A Remediation Action Plan (RAP) may also be required under the Secretary's Environmental Assessment Requirements (SEARs).

The contaminated site investigation and associated reports are being audited by Tom Onus of Ramboll Australia Pty Ltd, who is a NSW Accredited Contaminated Sites Auditor under the *Contaminated Land Management Act 1997.*

1.2 Background

The site has approximately 950 m of frontage to Mamre Road, with a proposed signalised intersection providing vehicular access via Mamre Road to the M4 Motorway and the Great Western Highway to the north and Elizabeth Drive to the south. Known historical land uses at the site include rural residential, grazing, dairy farming, poultry farming and horticulture.

Ministerial Local Planning Direction 3.5 precludes future residential development of the site due to its proximity to the Western Sydney Airport ANEF 20 noise contour. However, future land uses relevant to employment generating purposes are consistent with the approved 2014 Amendment to the SEPP WSEA and the 2018 Western Sydney Aerotropolis Land Use and Infrastructure Implementation Plan (LUIIP) Stage 1: Initial Precincts.

The proposed redevelopment of the site will facilitate land uses consistent with commercial and industrial use, as prescribed in the National Environmental Protection Measure as amended in 2013 (NEPC, 2013) and will involve the following activities:

- Demolition and removal of existing rural structures.
- Heritage salvage works (if applicable).
- Clearing of existing vegetation on the subject site and associated dam dewatering and decommissioning.
- Realignment of existing creek.
- On-site bulk earthworks including dewatering.
- The importation, placement and compaction of soil material, consisting of:
  - Virgin Excavated Natural Material (VENM) within the meaning of the POEO Act; and/or

  - Excavated Natural Material (ENM) within the meaning of the NSW Environmental Protection Agency's (EPA) Resource Recovery Exemption under Part 9, Clauses 91 and 92 of the POEO (Waste) Regulation 2014 – The Excavated Natural Material Order 2014; and/or
  - Materials covered by a specific NSW EPA Resource Recovery Order and Exemption which are suitable for their proposed use.
- Boundary retaining walls.
- Catchment level stormwater infrastructure, trunk services connections, utility infrastructure, roads and access infrastructure (signalised intersection with Mamre Road) associated with Stage 1.
- Construction fit out and 24 hours a day / 7 day per week use of industrial warehouse and distribution buildings within Stage 1.
- Detailed earthworks, stormwater, services and utility infrastructure associated with the construction of industrial logistics and warehouse buildings within Stage 1.
- Boundary stormwater management, fencing and landscaping.
- Staged subdivision of Stage 1.

Information provided to Arcadis by Mirvac indicates that approximately 200,000 m^3 of VENM and/or ENM will be imported onto the site to support earthworks undertaken as part of the Stage 1 site redevelopment works.

A Preliminary Site Investigation (PSI) has previously been undertaken at the site by JBS&G (2019).

1.3 Objectives

The objectives of this DSI are to undertake an intrusive investigation to assess issues, concerns or environmental risks and liabilities associated with the present and historical uses of the site and to assess major environmental risks (from a contaminated land perspective) to proposed site re-development.

1.4 Scope of Work

To complete this project, Arcadis completed the field work component of the DSI in two phases, taking into consideration feedback from the Contaminated Site Auditor.

Phase 1 included the following scope of works:

- Reviewed historical site information and previous reports.
- Completed a Dial Before You Dig (DBYD) search and engagement of a service locator to clear proposed sample locations for underground services prior to intrusive investigations.
- Prepared a Safe Work Method Statement (SWMS) for the field works and communicated to staff and subcontractors working on-site.
- Engaged a suitably qualified drilling contractor to install a total of six boreholes/monitoring wells and a suitably qualified excavation contractor to excavate a total of 15 test pits across the site.
  - Test pits were excavated to a maximum depth of 3.0 m or 0.5 m into natural material (whichever occurred first).
  - Groundwater monitoring wells were augured and hammered to a maximum depth of 12 m bgl.
- Logged soil samples in general accordance with the Unified Soil Classification System (USCS). Soil samples from each location were collected at regular intervals, including the surface, and screened with a Photo-ionisation Detector (PID) to detect the potential presence of volatile organic compounds (VOCs).
- Submitted one soil sample of the fill/near surface material (0.1 to 0.3 m bgl) and one or two samples from the underlying natural material at each location (15 in total) to the Eurofins under Chain of Custody (CoC) conditions for analysis of:

  - TRH.
  - BTEXN;
  - Polycyclic aromatic hydrocarbons (PAHs).
  - Eight heavy metals including arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Ag), nickel (Ni) and zinc (Zn).
  - OCP/OPPs, PCBs – surface soils only.
- For Quality Assurance / Quality Control (QA/QC) purposes, two intra-laboratory and two inter-laboratory samples, collected at the rate of 1:20, as well as a trip blank, trip spike and equipment rinsate sample were sent with samples and analysed for selected analytes.
  - An additional field water sample (used for cuttings) was analysed for eight priority heavy metals.
- Six boreholes were extended to a maximum depth of 12 m below ground level (m bgl) and converted into groundwater monitoring wells.
- Surveying of each of the six monitoring wells was conducted by an environmental scientist using an RTK Rover GPS.
- Development of the six monitoring wells was conducted after well installation utilising a stainless-steel bailer.
- Groundwater sampling (low flow) of the six monitoring wells was undertaken by an experienced environmental scientist a minimum of one week following the installation and development of wells.
- Aquifer hydraulic conductivity measurement via rising head slug tests at MW01 and MW02, was conducted by an experienced environmental scientist.
- Surface water sampling of the five on site dams, undertaken by an experienced environmental scientist with pre-cleaned sampling equipment.
- Measurement of surface and groundwater using a calibrated water quality meter during groundwater purging and water sampling (groundwater and surface water) to assess physico-chemical conditions and chemical equilibrium by measuring pH, redox potential (Eh), electrical conductivity (EC), dissolved oxygen (DO) and temperature was conducted by an experienced environmental scientist.
- Submitted surface water samples from each of the five on site dams to Eurofins (under CoC conditions) for analysis of:
  - TRH,
  - BTEXN,
  - Trace PAHs,
  - Heavy metals: As, Cd, Cr, Cu, Pb, Hg, Ni and Zn,
  - OCP/OPPs and PCBs,
  - Phenolics (total).
- Submitted six groundwater samples from the monitoring wells to the NATA accredited laboratory Eurofins (under COC conditions) for analysis of:
  - TRH,
  - BTEXN,
  - Trace PAHs,
  - Heavy metals: As, Cd, Cr, Cu, Pb, Hg, Ni and Zn,
  - OCP/OPPs and PCBs.

- Completed a site walkover to identify PACM on road surfaces, in paddocks, stockpiles and fill that were not identified in the previous PSI, where visibility allowed. This walkover included identification of treated timber.
- Submitted three soil samples to Eurofins (under COC conditions) for analysis of eight priority heavy metals.
- Submitted four PACM samples to the NATA accredited laboratory Eurofins (under COC conditions) for analysis of asbestos.
- Assessed soil results to the relevant NEPC (2013) NEPM guidelines for both:
  - HIL-D and HSL-D commercial/industrial trigger levels, commercial/industrial ESLs, commercial/industrial EILs and commercial/industrial management limits.
- Analytical results for the on-site in-situ soils were compared against NSW EPA (2014) *Waste Classification Guidelines: Part 1: Classification of Waste* and the NSW EPA 2016 amendment to facilitate the preparation of an indicative waste classification.
- Assessment of surface water results to the ANZG (2018) fresh water 95% protection criteria and the National Health and Medical Research Council (NHMRC) Australian primary contact recreation criteria.
- Assessment of groundwater results against the ANZG (2018) fresh water 95% protection criteria, the NHMRC Australian primary contact recreation criteria and the Groundwater Investigation Levels (NEPM 2013, Table 1C) Groundwater Investigation Levels (GILs) for freshwater.

Phase 2 scope of works included:

- Prepared a SWMS for the field works and communicated to staff and subcontractors working on-site.
- Five sediment samples were collected from the five dams, one sediment sample per dam, to characterise the sediment and to evaluate if the dams had been impacted by on site activities.
- Five Dam sediment samples (DS01 – DS05) were submitted to a NATA accredited laboratory for analysis of:
  - TRH,
  - BTEX,
  - PAH,
  - OP/OC pesticides,
  - PBCs, and
  - Heavy metals: As, Cd, Cr, Cu, Pb, Hg, Ni and Zn.
- Hand augering was conducted at HA01, HA06 and HA18 to vertically delineate heavy metal EIL exceedances recorded in the PSI. Samples were collected at 0.05 m and 0.2 m bgl at HA01B, HA06B and HA18B. Hand augering was unable to be completed at HA13 due to the livestock. Hand augering could not be undertaken at location HA08 to refusal on dense geology.
- Six soil samples were submitted to a NATA accredited laboratory for the following analysis:
  - HA01B: Heavy metals: Zn and Cu
  - HA06B and HA18B: Heavy metal: Zn
- Soil samples were collected from two soil bore holes (HA15B and HA15C) to vertically delineate TRH contamination recorded at HA15 during the PSI. HA15B was sampled to a maximum depth of 0.8 m bgl, while HA15C was sampled to a maximum depth of 0.2 m bgl.
- Six soil bore hole samples were submitted to Eurofins for TRH and BTEX analysis.

- Additional soil samples were collected from SO01 to SO02 where timber posts were stockpiled to address a creosote data gap. Five soil samples were submitted to Eurofins for halogenated and non-halogenated phenols.
- Soil samples were logged in general accordance with the USCS. Soil samples from each location were collected at regular intervals, including the surface, and screened with a PID to detect the potential presence of VOCs.
- A limited Groundwater Monitoring Event (GME) was conducted on November 27th, 2019, to close a groundwater quality data gap for semi-volatile organics. Six groundwater wells were sampled and submitted to Eurofins, under COC conditions, for semi-volatile organics.
- Physical groundwater parameters were recorded during purging of each groundwater monitoring well using a calibrated water quality meter to assess physico-chemical conditions and chemical equilibrium by measuring pH, Eh, EC, DO and temperature by an experienced environmental scientist.
- For QA/QC purposes, two soil and one groundwater intra-laboratory and inter-laboratory samples were collected (rate of 1:20), as well as a soil and water trip blank, a trip spikes and two equipment rinsate samples were submitted with the soil samples and analysed for selected analytes.
- Analytical results for the on-site in-situ soils were compared against NSW EPA (2014) Waste Classification Guidelines: Part 1: Classification of Waste and the NSW EPA 2016 amendment to facilitate the preparation of an indicative waste classification.
- Assessed groundwater results against the ANZG (2018) fresh water 95% protection criteria, the NHMRC Australian primary contact recreation criteria and the Groundwater Investigation Levels (GILs) (NEPM 2013, Table 1C) for freshwater.
- Prepared a DSI report in general accordance with the NEPC (2013) NEPM and NSW OEH (2011) Guidelines for Consultants Reporting on Contaminated Sites.

1.5 Limitations

The findings of this report are based on the Scope of Work described in this report. Arcadis performed the services in a manner consistent with the level of care and expertise exercised by members of the environmental profession.

No warranties, express or implied, are made. Subject to the Scope of Work, Arcadis' assessment is limited strictly to identifying typical environmental conditions associated with the subject property.

While normal assessments of data reliability have been made, Arcadis assumes no responsibility or liability for errors in any data obtained from regulatory agencies, statements from sources outside of Arcadis, or developments resulting from situations outside the scope of this project

Arcadis prepared this report for the sole and exclusive benefit and use of the client. Notwithstanding delivery of this report by Arcadis or the client to any third party, any copy of this report provided to a third party is provided for informational purposes only, without the right to rely. Arcadis cannot accept any responsibility for any use of or reliance on the contents of prepared reports by any third party except where expressly agreed via an agreed and properly executed reliance letter. Subject to the terms of the reliance letter, Arcadis would disclaim all and any liability to any third person in respect of anything or in consequence of anything done or omitted to be done by that person in reliance, whether whole or partial.

Information from samples collected by Arcadis or historical data reviewed relating to soil, groundwater, waste, air or other matrix conditions in this document is considered to be accurate at the date of issue. Surface, subsurface and atmospheric conditions can vary across a particular site or region, which cannot be wholly defined by investigation. As a result, it is unlikely that the results and estimations presented in this report will represent the extremes of conditions within the site that may exist. Subsurface conditions including contaminant concentrations can change in a limited period of time and typically have a high level of spatial heterogeneity.

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.

Arcadis' 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. It is possible that additional testing and analysis might produce different results and/or different opinions. Arcadis has limited its investigation(s) to the scope agreed upon with its client.

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.

2 SITE INFORMATION

2.1 Site Location

The location and layout of the site are shown in Figures 1 and 2, **Appendix A**. The site details are provided in **Table 2-1** below and described in detail in the following sections.

Table 2-1 Site Detail Summary

Site Characteristic	Detail
Street Address	804-882 Mamre Road, Kemps Creek, NSW, 2178
Deposited Plan	Lots 54 to 58 DP259135
Closest Cross Road(s)	Mamre Rd and Bakers Ln
Local Government Area	Penrith City Council
Land Use Zoning Information	IN1: General Industrial
Site Coordinates to the approximate centre of the site (Geographic)	Latitude: -33.842987 Longitude: 150.784934
Current Land Use	Rural residential properties
Proposed Future Land Use (Assumed)	Employment purposes (industrial and/or commercial land use)
Approximate Site Area	Approximately 563,000 m^2

2.1 Topography

The site slopes down to the south west and has an elevation of approximately 40 to 50 m relative to the Australian Height Datum (AHD). The site exists within a generally flat alluvial plain with localised undulating rises/falls, generally sloping toward Kemps Creek/South Creek to the west.

2.2 Geology

The 1:100,000 Geological Survey of NSW map of Sydney indicates that the site is underlain by Bringelly Shale of the Wianamatta Group. This is described as comprising shales, carbonaceous clay, laminate and coal.

The eSPADE NSW Soil and Land Information database indicates that the site is underlain by Blacktown and Luddenham Soil Landscapes.

The soils encountered during fieldwork conducted by Arcadis in October and November 2019 aligned with the above descriptions and were described as:

- Fill material generally comprising topsoil and brown silty clay to a typical depth of 0.2 m below ground level (mbgl) and a maximum depth of 1.2 mbgl (in TP110 and MW01); and
- Natural material generally comprising slightly stiff, orange to brown clay with grey mottling turning into grey to brown weathered shale.

2.3 Hydrogeology

Groundwater is present within the Bringelly Shale. Typically, the Bringelly yields low volumes of saline groundwater, which is consistent with groundwater physico-chemical observations in this DSI (salinity ranged between 14,068 µS/cm to 25,598 µS/cm). The shale generally has low water transmitting properties, displaying a very low primary porosity with the majority of flow being via saturated structural features such as fractures, joints and laminations. Groundwater can be perched at the base of the weathered soil profile along the interface with fresh bedrock. The regional aquifer within the shale is often confined or partially confined and rises once intersected in a borehole.

A review of NSW Department of Primary Industries Office of Water records for groundwater bores within a 2,000m radius of the site indicated that no groundwater boreholes were present around the site. This is consistent with the groundwater within the shale being of moderate salinity, low yielding and a general abundance of surface water.

Groundwater was found within the shale between 6.0 m and 11.5 mbgl in a confined aquifer, with SWL returning to 2.5 – 9.5 m below top of casing (mTOC) (**Appendix B**). Based on the fieldwork conducted by Arcadis in October 2019, the groundwater flow direction was found to be towards the north west, towards South Creek (Figure3, **Appendix A**).

2.4 Hydrology

During Arcadis fieldwork (October and November 2019), five dams were identified across the site and were primarily being used for stock watering and irrigation. As discussed in the PSI report (January 2019), the site is predominately surfaced with grass cover, whereby it is anticipated that surface water generated during periods of rainfall is likely to infiltrate at a rate reflective of the silty clay topsoil permeability. In periods of heavy or prolonged rainfall, excess water is likely to result in overland flow and traverse south-west towards Kemps Creek/South Creek, following the topographic gradient. A portion of the overland flow is likely to be captured by the existing dams on site.

The nearest surface water bodies include several small dams in the neighbouring properties and Kemps Creek, which is located approximately 600 m to the west of the site. Kemps Creek drains into South Creek approximately 900 m west of the site, before ultimately discharging into the Hawksbury River located approximately 26 km north of the site.

2.5 Acid Sulfate Soil and Salinity

Acid sulfate soils (ASS) are generally associated with low-lying coastal areas, including estuarine flood plains, rivers and creeks.

The PSI (January 2019) states that the location and elevation of the site (greater than RL 40 mAHD) are such that the likelihood of ASS within the study area is low.

Salts are naturally present in soil, bedrock and groundwater. In western Sydney salts naturally occur within the Ashfield Shale and are mobilised in the subsurface by the movement of groundwater. When saline groundwater is present close to the surface the salts can precipitate on the ground as the saline groundwater is drawn to the surface by fluctuating water tables combined with capillary action. Seepage of saline groundwater can cause corrosion of building materials, inhibit growth of most plant species except for highly salt tolerant vegetation, contributing to increased soil erosion. Salinity hazard mapping (DIPNR, 2012) indicates the site is of moderate salinity potential due to the site being located on Ashfield Shale. Off-site adjacent to drainage lines the salinity potential is considered high as the saline groundwater becomes shallower with an increased potential of the water table intersecting the ground surface.

2.6 Site Condition and Environmental Setting

A detailed report on the site condition (Lots 54 to 58 DP 269135, rural residential), surrounding environment (rural residential), and site history is presented in the PSI (2019). A summary of the findings from the PSI are presented in **Section 2.7.1** below.

2.7 Summary of Previous Investigations

2.7.1 Preliminary Site Investigation (JBS&G, 2019)

In January 2019, JBS&G conducted a PSI with limited soil sampling at the site.

The PSI review of the site history indicated the site was historically used for light agricultural purposes (i.e. grazing, historical dairy farming, poultry farming and horticulture).

The findings of the desktop study and confirmed by JBS&G detailed site inspections conducted on November 30, 2018 and January 16, 2019 identified current and potential historical sources of on-site contamination. The sources of potential contamination were associated with the following storage, handling and uses on the site:

- Pesticides/herbicides used in former and current market gardens.
- Potential biological impacts from livestock/poultry farming.
- Potential use of hazardous building materials (asbestos, lead based paints, PCBs) in historic and current site structures resulting in localised impacts to soils in proximity to the location of site structures.
- Potential hydrocarbon and pesticide contamination from the storage of materials and consumables at various locations across the site area (former and current sheds).
- Fill materials of unknown origin.
- ACM in irrigation lines (conduits).

JBS&G collected soil samples from a total of 38 locations across the site: 29 soil boreholes, two test pits and seven stockpiles. The results from the samples collected by JBS&G have been summarised below.

A copy of PSI sampling location figures and the tabulated laboratory results are included in **Appendix C**.

- BTEX, PAH, PCBs and OCP/OPP concentrations were below the laboratory Limit of Reporting (LOR) and adopted assessment criteria.
- Zn concentrations in surface soil samples (0.0 – 0.1 mbgl) at HA01, HA06, HA08, HA13 and HA18, and Cu concentrations in HA01 (0.0 to 0.1 mbgl) exceeded the EIL. The PSI indicates the heavy metal contamination were generally associated with existing structures or areas of stored anthropogenic materials. JBS&G concluded the elevated concentrations were most likely due to cross-contamination. The heavy metal contaminations were noted to pose a potential (unacceptable) risk to ecological receptors on site, however, did not pose a risk to human health (JBS&G, 2019).
- Elevated TRH concentrations at HA15 in the surface sample (0.0 to 0.1 mbgl) exceeded the NEPM (2013) management limits and adopted ESLs for TRH faction C_{10} - C_{16} and C_{16} – C_{34}. The PSI indicates the surface staining was limited to an area of approximately 1 m^2 and may pose a potential ecological risk (JBS&G, 2019). Further investigation is therefore required.
- The PSI states *'Anthropogenic materials at some locations were present in quantities that may pose an aesthetic concern for sensitive land uses. However, noting the proposed land use (commercial/industrial), these materials may be retained beneath hardstand without any further management'* (JBS&G, 2019). JBS&G (2019) noted *'the impacts identified were typical of the low risk historical land uses that occurred at the site'.*
- Two representative fragments of fibre sheet board collected from site structures did not test positive for detectable asbestos.
- However, trace level friable asbestos fines (Chryostile) was identified at HA13, which was collected within close proximity to the fibre sheet board which clad the walls of an adjacent site structure. The board was observed to be '*fragmented and in poor condition*' (JBG&S, 2019).

- Laboratory calculated % weight/weight (%w/w) concentrations were below the adopted HSL for asbestos fines (FA) and laboratory LOR. The PSI concluded the AF detection in the soils was likely due to weathering or physical degradation of the bonded fibre board resulting in the liberation of fibres.

The PSI concluded:

- Whilst the investigation identified localised surficial soil impacts at the site, the investigation did not identify widespread contamination which may preclude future redevelopment of the site.
- Identified soil impacts are considered representative of common contaminants and historical land use activities which can be readily dealt with during the Development Application (DA) stage for redevelopment and assessment for site suitability.
- JBS&G recommended that a Hazardous Building Material Survey (HBMS) be undertaken prior to demolition of existing site structures.

2.7.2 Data Gaps

Based on a review of the PSI, the following data gaps were identified:

- Soil sampling program was largely limited to surface (0.0 – 0.1 mbgl), except for HA04 (0.3 mbgl); TP01 (3.1 mbgl) and TP01 (1.1 mbgl).
- Further investigation is required at HA01, HA06, HA08, HA13 and HA18 to vertically delineate the extent of Zn and/or Cu (heavy metal) contamination and clarify the extent of contamination and potential ecological risk the contamination poses on site.
- PSI sampling was limited to the surface soils (0 – 0.1 mbgl) only. Vertical delineation of hydrocarbon staining observed at HA15 (fuel drum) is required to inform remediation requirements.
- PACM panels were observed in several structures during the PSI. Only two representative samples were submitted for analysis, despite approximately 20 known structures on site, many of which were constructed prior to the 1980s (aerial photographs) and are likely to be demolished during the redevelopment of the site. As per the recommendations of the PSI a HBMS is required to identify ACM structures on site prior to demolition.
- Limited or no soil sampling was conducted within existing building footprints. Further investigation is required, either as part of the DSI (if reasonably practicable) or as part of the demolition / remediation stage of works.
- One soil sample was collected within the vicinity of the substation on site. Additional soil sampling will be required to validate the area following the removal of above ground structures.
- The was no groundwater or surface water analysis was undertaken as part of the PSI. Further investigation is required.
- One water sample was collected from the northern most pond, referred to herein as DAM01. Further water and sediment sampling is required within the dams onsite.
- Potential runoff pathways have not been assessed as part of the PSI. Further investigation will be required.
- There was no waste classification analysis undertaken as part of the PSI. Further investigation will be required.

3 SAMPLING AND ANALYSIS PLAN AND SAMPLING METHODOLOGY

This section outlines the methodology adopted by Arcadis during the intrusive works conducted as part of the DSI. Field methods undertaken by Arcadis were in general accordance with relevant guidelines endorsed by NSW EPA and with the NEPM ASC (2013). This section also provides details on the sampling and analysis procedures, rationale for soil, sediment, surface water and groundwater monitoring well locations, description of field equipment used, decontamination procedures, field and laboratory quality assurance and control, laboratory analytical methods and sample preservation.

3.1 Data Quality Objectives

The Data Quality Objectives (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 define the experimental process required to test a hypothesis. The DQO process has been developed to confirm 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.

The DQO process consists of seven steps, which are designed to clarify the study objectives, define the appropriate type of data and specify tolerable levels of potential decision errors. The seven-step DQO process adopted for this DSI 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 study 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 Study Boundaries – specify the time periods and spatial area to which decisions will apply. Assess 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 rates 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 the DQOs.

The DQOs are provided in **Table 3-1**, and were derived in accordance with Australian Standard *AS 4482.1-2005.*

Table 3-1 Data Quality Objectives

Step	Detail
1. State the Problem	It is currently unknown if historical site use has introduced contaminants of potential concern (CoPC) to soil, surface water, sediment and groundwater at the site, except for asbestos identified in the PSI. The extent of asbestos contamination to soils is currently unknown.
2. Identify the Decision	If elevated concentrations of CoPC are identified within selected media: • What is the extent of the impact? • Do identified CoPC occur at concentrations that have the potential to pose an unacceptable risk to human health or the environment? If so, what is the order of priority to minimise the risk and what additional measures are required to mitigate or manage the risk?
3. Identify the Inputs to the Decision	Key data required to resolve the project problem included concentrations of COPCs in the soil, surface water and groundwater at the site, and the structure and depth of the underlying site geology and aquifers. The CoPC were based on current site condition observed during field works. The guidelines adopted by Arcadis for soil and groundwater are as follows: <u>Soil</u> • NEPC (1999) amended 2013, Health Screening Levels (HSLs) for Vapour Intrusion, Sand, Recreational C and Commercial/industrial D. • NEPC (1999) amended 2013, Health Investigation Levels (HILs), Recreational C and Commercial/Industrial D. • NEPC (1999) amended 2013, Ecological Screening Levels (ESLs) for Urban/Residential and Commercial/Industrial, coarse soil. • NEPC (1999) amended 2013, Ecological Investigation Levels for Urban residential and open public space, and Commercial/industrial, aged soil. • NEPC (1999) amended 2013, Management Limits in residential/parkland and Commercial/industrial, coarse soil. <u>Surface Water</u> • AZNG (2018) Freshwater 95% Toxicant Default Guideline Values (DGV's). • NHMRC (2008) Primary Contact Recreation. <u>Groundwater</u> • NEPC (1999) amended 2013, Health Screening Level – Commercial/Industrial D and for groundwater vapour intrusion, Clay. • NEPC (1999) amended 2013, Groundwater Investigation Levels for Freshwater (adopted from ANZG 2018). • NHMRC 2008 Primary Contact Recreation. Further explanation for the selection of these criteria is provided within Section 7.
4. Define the Study Boundary	Groundwater and soil assessment locations were based on the data gaps of the PSI. Samples were obtained via test pits and bore holes at regular and representative locations along the proposed development. The surface water samples were collected were representative of each on-site dam. Figures 4, **Appendix A,** shows the surface and ground water sampling locations.

Step	Detail
	The vertical extent of the study boundary was limited to a maximum depth of 12 m. Temporal boundaries of the study were limited to the dates that field works were completed as detailed in **Section 3.2**.
5. Develop a Decision Rule	If the concentrations of CoPCs in selected sampling media are reported to be below the relevant adopted guidelines and or LORs, then the site will be deemed suitable and no management/remediation options will be recommended for continued and proposed land use at the site. However, if the concentration of one or more CoPCs are greater than the guidelines/LORs, then further investigation may be required to delineate the extent of the impact and/or recommendations made for the remediation/management of contamination.
6. Specify Tolerable Limits on Decision Errors	The acceptable limits for samples are as follows: • % RPD for laboratory duplicates for TPH and BTEXN analysis is less than 60 %; and • Recovery of matrix spikes and surrogate spikes is as per the laboratory's Quality Assurance targets accepted under their National Association of Testing Authorities (NATA) accreditation. Precision is measured using the standard deviation 'SD' or Relative Percent Difference '%RPD'. Replicate data for field duplicates of organics is expected to be as follows: • RPD criteria of 50 % or less, for concentrations > or = 10 times PQL; • RPD criteria of 75 % or less, for concentrations between 5 and 10 times the EQL; and • RPD criteria of 100 % or less, for concentrations < 5 times PQL. Replicate data for field duplicates for inorganics, including metals is expected to be as follows: • RPD criteria of 30 % or less, for concentrations > or = 10 times PQL; • RPD criteria of 75 % or less, for concentrations between 5 and 10 times the EQL; and • RPD criteria of 100% or less, for concentrations < 5 times PQL. Where acceptable limits for field duplicates were not met, a discussion on low biased error will be provided.
7. Optimise the Design	Soil samples were collected at relevant intervals, changes in geology or in zones of gross contamination while sample locations were selected for efficient and representative sampling. Groundwater sample locations were installed within geotechnical boreholes assessing potential on and off-site substance migration.

3.2 Schedule of Works

Fieldworks included site walkover, service location, soil sampling, surface water sampling, installation of groundwater monitoring wells, groundwater sampling, slug tests, monitoring well surveying and PACM observation and sampling. These works were conducted by Arcadis Environmental Scientist Michael Ashelford and Tom Keatley. The following schedule of works was undertaken by Arcadis:

- Site walkover was conducted on Tuesday October 8, 2019.
- Service location of test pit and borehole locations was conducted on October 9, 2019.
- Fifteen test pits were excavated on October 8, 2019.

- Monitoring wells MW01 and MW02 were installed and developed on October 8, 2019, MW04, MW05 and MW06 were installed and developed on the October 9, 2019 and MW03 was installed and developed on October 16, 2019.
- Surface water, asbestos, soil samples and groundwater samples MW01, MW02, MW04, MW05 and MW06 were collected on October 16, 2019.
- Aquifer measurement and groundwater sampling (MW03) was undertaken on October 23, 2019.

Phase 2 fieldwork was undertaken on November 27, 2019, comprising:

  - Five sediment samples (DS01 – DS05) were collected from the dams (DAM01 to DAM05).
  - Soil samples were collected via hand augering at locations HA01, HA06, HA18, HA15B and HA15C.
  - Soil samples we collect at location SO01 to SO05.
  - Groundwater samples were collected from six groundwater monitoring wells.

3.3 Sampling and Analysis Plan

3.3.1 Sampling Rationale

The investigation has been developed using a judgemental sampling approach. A judgemental sampling pattern can be used where there is enough information regarding the probable distribution of contamination (NSW EPA, 1995). The proposed judgemental sampling regime was developed in accordance with the NSW EPA (1995) Sampling Design Guidelines and Arcadis' knowledge of the probable distribution of impacts at the site. This approach supports a more efficient sampling regime and makes use of existing data and historical site information. Arcadis consider that the probable distribution of contamination on site will be localised to source point areas, such as sheds, material handling areas and areas with uniform land use, e.g. market gardening. Paddock and grazing areas are generally low risk unless specific hotspots are observed.

Test pit and monitoring well locations were determined to resolve the data gaps for soil and groundwater which were identified the PSI, see **Section 2.7.2**. Arcadis considers that these locations were also appropriate for a generalised environmental and contamination investigation for the purposes of this DSI. Sampling of surface water, soil adjacent timber posts, dam sediments and PACM was located based on available site features. The rationale for sampling locations is provided in **Table 3-2.**

Sampling locations are presented in Figures 4 to 8, **Appendix A**.

Table 3-2 DSI Sampling Location Rationale

Sample Media	Sample IDs	Sampling Location Rationale
Soil (Test Pit)	TP101	Test pit dug within fill material on the western portion of Lot 57. Whilst fill material from this area was assessed during the PSI, more sampling was necessary to investigate the vertical extent of fill in this area.
	TP102	Test pit dug near residential property on Lot 57 which was not assessed during the PSI to assess the presence of fill.
	TP103	Test pit dug in open space in the western portion of Lot 57. This area was unassessed during the PSI and improves site coverage.
	TP104	Targeting potential soil impacts relating to the former chicken farm area and associated Liquid Petroleum Gas (LPG) tank on Lot 54.

Sample Media	Sample IDs	Sampling Location Rationale
	TP105	Test pit dug in the north-eastern corner of the site, on Lot 57, to improve site coverage along the eastern boundary.
	TP106	Test pit targeting market garden areas west of Dam02 on Lot 56. This area was unassessed during the PSI and improves site coverage.
	TP107	Test pit targeting bank fill material on the northern boundary of Dam02. This area was unassessed during the PSI and improves assessment of bank fill material.
	TP108	Test pit targeting bank fill material on the northern boundary of Dam02. This area was unassessed during the PSI and improves assessment of bank fill material.
	TP109	Test pit dug in open space area on eastern portion of Lot 56. This area was not assessed in the PSI and improves site coverage.
	TP110	Test pit targeting bank fill material around Dam03 and Dam04 on Lot 55, which was identified during the PSI.
	TP111	Test pit targeting soil near stockpiled material adjacent Dam04 to the west, on Lot 55.
	TP112	Test pit dug in open space on Lot 54 to increase site coverage and to assess area not sampled during the PSI.
	TP113	Test pit dug within fill material on the western portion of Lot 57. Whilst fill material from this area was assessed during the PSI, more sampling was necessary to investigate the vertical extent of fill in this area.
	TP114	Test pit targeting bank fill material on the western boundary of Dam01 on Lot 57.
	TP115	Test pit targeting bank fill material on the southern boundary of Dam05 on Lot 57.
Soil (Soil bores converted to Groundwater Monitoring Wells)	MW01	Sampling of soil from bore hole, which was later converted to groundwater monitoring well MW01, located in the north-western corner of the site near a chemical storage shed and area of known stockpiled material.
	MW02	Sampling of soil from bore hole, which was later converted to groundwater monitoring well MW02, located in the north-eastern corner of the site.
	MW03	Sampling of soil from bore hole, which was later converted to groundwater monitoring well MW03, located in proximity to the former chicken farm area and close to a transformer which was identified during the PSI.
	MW04	Sampling of soil from bore hole, which was later converted to groundwater monitoring well MW04. This is located adjacent DAM02 to the south on Lot 56, and in close proximity to a petroleum drum identified in the PSI and was sampled to assess potential TRH impacts to soil.
	MW05	Sampling of soil from bore hole which was later converted to groundwater monitoring well MW05. This is located in close proximity to the PSI sample 'HA15', which was noted to have TRH exceedances of ESL criteria.

Sample Media	Sample IDs	Sampling Location Rationale
	MW06	Sampling of soil from bore hole, which was later converted to groundwater monitoring well MW06, located towards the eastern boundary of the site, and was sampled to improve site coverage.
Soil (Timber Post)	SO01	Sampling of soil adjacent timber post on Lot 58 to assess leaching of timber preservatives, including Copper Chrome Arsenic (CCA) and Creosote. Address PSI data gap.
	SO02	Sampling of soil adjacent timber post on Lot 56 to assess leaching of timber preservatives, including CCA and Creosote. Address PSI data gap.
	SO03	Sampling of soil adjacent timber post on Lot 54 to assess leaching of timber preservatives, including CCA and Creosote. Address PSI data gap.
	SO04	Sampling of soil adjacent timber stockpile on Lot 55 to assess leaching of timber preservatives, including CCA and Creosote. Address PSI data gap.
	SO05	Sampling of soil adjacent timber stockpile on Lot 57 to assess leaching of timber preservatives, including CCA and Creosote. Address PSI data gap.
Soil – Hand Auger	HA01	Soil sampling to delineate heavy metal contamination above the adopted EIL identified in the PSI (JBS&G, 2019)
	HA06	
	HA15B	Soil sampling to delineate hydrocarbon contamination above the adopted EIL identified in the PSI (JBS&G, 2019)
	HA15C	
	HA18	Soil sampling to delineate heavy metal contamination above the adopted EIL identified in the PSI (JBS&G, 2019)
Dam Sediment	DS01	Collection of representative surface water sample from Dam01 to assess sediment quality for disposal or on-site reuse during construction works.
	DS02	Collection of representative surface water sample from Dam02 to assess sediment quality for disposal or on-site reuse during construction works.
	DS03	Collection of representative surface water sample from Dam03 to assess sediment quality for disposal or on-site reuse during construction works.
	DS04	Collection of representative surface water sample from Dam04 to assess sediment quality for disposal or on-site reuse during construction works.
	DS05	Collection of representative surface water sample from Dam05 to assess sediment quality for disposal or on-site reuse during construction works.
PACM	ASB01	Collection of PACM material samples from surface near the roadway adjacent Dam01 to the north on Lot 58.
	ASB02	Collection of PACM material samples from near the shed toward the north-western corner of Lot 58.
	ASB03	Collection of PACM material samples from surface in an area of identified stockpiled materials adjacent Dam04 to the west, on Lot 55.

Sample Media	Sample IDs	Sampling Location Rationale
	ASB04	Collection of PACM material samples from surface at an area of identified fill adjacent Dam01 to the south, on Lot 57.
Surface water	DW01	Collection of representative surface water sample from Dam01 to assess water quality for disposal or on-site reuse during construction works.
	DW02	Collection of representative surface water sample from Dam02 to assess water quality for disposal or on-site reuse during construction works.
	DW03	Collection of representative surface water sample from Dam03 to assess water quality for disposal or on-site reuse during construction works.
	DW04	Collection of representative surface water sample from Dam04 to assess water quality for disposal or on-site reuse during construction works.
	DW05	Collection of representative surface water sample from Dam05 to assess water quality for disposal or on-site reuse during construction works.
Groundwater	MW01	Groundwater sample of monitoring well (MW01), which was drilled in the north-western corner of the site to assess local groundwater conditions near a shed where chemical storage has historically taken place, and in an area of known stockpiled material.
	MW02	Groundwater sample of monitoring well (MW02), which was drilled in the north-eastern corner of the site to assess local groundwater conditions.
	MW03	Groundwater sample of monitoring well (MW03), which is located in proximity to the former chicken farm area on Lot 54, and in the south-western corner of the site. This groundwater well was drilled to assess potential impacts of a transformer identified within the PSI. Hence, MW03 was analysed for an expanded suite of CoPC associated with agriculture (OCP/OPP) and electrical transformers (PCB).
	MW04	Groundwater sample of monitoring well (MW04), which is located adjacent DAM02 to the south on Lot 56, and in close proximity to a petroleum drum identified in the PSI. This sample was collected to assess potential impact of petroleum from this drum to groundwater.
	MW05	Groundwater sample of monitoring well (MW05), which is located in close proximity to the PSI sample 'HA15', which was noted to have TRH exceedances of ESL criteria. This sample was taken to assess if TRH from a nearby oil drum had impacted groundwater.
	MW06	Groundwater sample of monitoring well (MW06), which was drilled towards the eastern edge of the site to assess local groundwater conditions.

3.3.2 Pre-Planning

Prior to intrusive works and surface sampling, sample locations were cleared of underground services as follows:

- DBYD plans were obtained, reviewed and made available on-site.
- A SWMS was prepared for the field works and communicated to staff working on-site.
- A pre-start meeting was held with the client to identify possible risks and confirm sample locations.

3.3.3 Sample Handling, Processing and QA/QC Methods

To make sure representative samples were collected, the following sample handling and processing methods were followed:

- Prior to collection of each sample, the onsite personnel applied a new pair of nitrile gloves.
- Sampling equipment was decontaminated prior to use.
- Laboratory supplied analyte specific sampling containers were used.
- Ice was double-bagged (polyethylene plastic) and secured during overnight and same-day delivery to the analytical laboratory.

In addition to the above, to make sure representative samples were collected during field works, the QA/QC procedures discussed in **Table 3-3** were followed.

Table 3-3 Quality Assurance/Quality Control Procedures

QA/QC Item	Discussion
Decontamination	Single use equipment including Low-Density Polyethylene (LDPE) tubing was used during groundwater sampling. Soil samples were collected using a decontaminated spade and single use nitrile gloves. Reusable equipment for water and soil sampling was scrubbed and rinsed with potable water, decontaminated using Decon 90, and then triple rinsed in clean, di-ionised water with a water spray pack.
Sample Handling and Storage	Each soil, sediment, surface water and groundwater sample was collected using new nitrile gloves. Samples were immediately placed in a pre-chilled, ice-filled esky. The sample filled eskies were transported to the laboratory under COC command. The COC accompanied the samples to the laboratory and included the following information: • Project name and number. • Project manager and field representative. • Date of sampling. • Requested turn-around time for reporting of results. • Sample IDs. • Time and date of sampling for each sample. • Number, type and preservation of sample jars/bottles. • Analytical suite. • Notes for the laboratory. • Name and signature of Arcadis representative relinquishing the samples. • Name and signature of laboratory representative accepting the samples.
Labelling	Samples were clearly labelled with indelible ink. Sample labels included the following information: • Sample ID. • Project number. • Sampler details. • Time and date of sample. • Preservation details. • Filtration details (water only).

QA/QC Item	Discussion
Field Forms	Field forms were filled out during sampling of matrices. Field forms and associated details included: • Date of sampling. • Sample location ID number. • Sample depths. • QC sample details. • Sampling method. • Name of logger/sampler. • GPS details. • Observations – e.g. lithology, Fill/natural material, surface water quality parameters, staining.
Quality Control Samples	The following field QA/QC samples were collected during the project: • Intra- and -inter laboratory duplicates at a minimum of 1:20 primary samples across each matrix; • One laboratory supplied trip blank and trip spike for each matrix. • Rinsate sampling, generally one per day. • Field blank, generally one per day.
Laboratory	The primary and secondary laboratories, Eurofins and ALS, were accredited by the NATA for their respective analysis. Upon receipt of each batch of samples the laboratory issued a Sample Receipt Notification (SRN) which stated: • The condition of the samples on receipt. • The temperature of the samples on receipt. • A list of the samples received and the required analysis. • Date the results will be reported. • Compliance to holding times. The laboratory completed internal QA/QC procedures to test the representativeness of the data produced. These include: • Matrix spike. • Laboratory control spike. • Method blank. • Laboratory duplicate. • Surrogate spike.

3.3.4 Sampling Methods

3.3.4.1 Soil Sampling Methodology

Soil sampling was conducted in general accordance with *Australian Standard 4482.1-2005 Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil – Part 1: Non-Volatile and Semi-Volatile Compounds* and Arcadis 'Standard Operating Procedures' for soil sampling and logging.

Arcadis engaged a suitably qualified drilling contractor to install a total of six boreholes/monitoring wells across the site using a mixture of air hammer and solid flight auger drilling techniques. When auguring, soil samples were collected at regular intervals (surface, 0.5 m, 1.0 m, 1.5 m, 2.0 m, and at 1.0 m intervals thereafter). Soil samples were not collected while air hammering.

Arcadis engaged a suitably qualified excavation contractor to dig a total of 15 test pits across the site to a maximum depth of 3.0 m or 0.5 m into natural material (whichever occurred first). Soil samples

were collected from the bucket of the backhoe at regular intervals (0.2 m, 0.5 m and 1.0 m) at each location with additional samples at changes of lithology, water strike or if signs of contamination were detected.

One 10 L sample from test pit locations (0 to 0.1 m bgl) and additional sub-surface samples where contamination was suspected, were collected for assessment of ACM in accordance with the NEPC (2013) NEPM:

- 10 L of soil was weighted prior to sieving.
- Samples were screened manually on-site through a greater than 7 mm sieve and spread out for inspection on a dark blue mat (recommended for FA).

If identified, ACM were weighed to calculate asbestos soil concentration for individual samples as per NEPC (2013) NEPM.

Each soil sample collected was screened with a PID to detect the potential presence of VOCs.

Using new nitrile gloves and decontaminated equipment between each sampling event, soil samples were collected into:

a. A ziplock plastic bag for screening with a PID for detection of VOCs.

b. A 500 mL zip lock bag for asbestos in soil identification (AF/FA).

c. A laboratory prepared 250ml glass jar with the details of the sample, including the sample name, the job number, the date of sample and the sample depth.

d. A laboratory supplied 50g ziplock bag with the above labelling for asbestos ID.

Test pits were backfilled and compacted by Ken Coles Excavations. Detailed test pit logs are provided in **Appendix D**. Soil sampling locations are presented in Figure 5, **Appendix A**.

3.3.4.2 Soil Logging

Soil logging was conducted during test pit and bore hole advancement. A detailed log was completed at each location. The following details were recorded during the drilling works:

- Fill thickness and materials, including the presence or absence of indicators of contamination, such as presence of chemical odours, unusual staining, anthropogenic materials and potential ACM.
- Natural soils according to the USCS classification.
- Presence or absence of moisture.
- Groundwater strike and static water levels.
- Record of samples collected from the soil bore including duplicates and triplicates, and the PID reading of the sample.

Detailed test pit logs are provided in **Appendix D**.

PID calibration records including field calibration and external calibration certificates are included in **Appendix B.**

3.3.4.3 Dam Sediment Sampling

Five representative sediment samples were collected from the outer edge of each on site dam (Dam 01 – 05) (Figure 6, **Appendix A**). A decontaminated spatula was used to loosen sediment from the surface and placed into laboratory supplied sample containers.

Single use disposable new nitrile gloves were replaced between each sample. The spatula was decontaminated between each sample using Liquinox.

3.3.4.4 Hand Auger Sampling

Twelve soil samples were collected via hand augering from five locations to delineate heavy metal (HA01, HA06 and HA18) and hydrocarbon (HA15B and HA15C) (Figure 7, **Appendix A**). Hand augering was unable to be completed at HA06 due to refusal and HA13 due to livestock.

Soil samples were collected at the following depths:

- 0.05 mgbl (surface sample)
- 0.2 mbgl

Additional samples were collected from HA15B at 0.6 mbgl and 0.8 mbgl.

Samples were collected into laboratory supplied sample containers and placed into a chilled esky. New disposal nitrile gloves were replaced between each sample and the hand auger decontaminated with Liquinox.

3.3.4.5 Monitoring Well Installation

Six groundwater monitoring wells were installed at the site (Figure 4, **Appendix A**). Drilling locations were cleared for the presence of underground services prior to drilling. Boreholes were initially advanced using a Geoprobe drill rig using a solid flight auger, with deeper wells advanced by air-hammer. Between boreholes the drilling rods were brushed down of excess soils and cleaned with phosphate free detergent to ensure no cross contamination.

The groundwater monitoring wells were constructed using Class 18 PVC pipe, 50mm ID tubing, factory slotted screens with blank casing. The annulus of the screen was constructed from the bottom of the hole with 1 to 2mm gravel pack to near surface, with a 500mm hydrated bentonite plug emplaced above the gravel pack to surface, to exclude surface water from entering the screened section. A watertight well cap was placed on the top of the well casing.

Monitoring well development was conducted using a stainless-steel bailer and Wattera foot valve to induce surging of the gravel pack. Each well was developed until the majority of sediment was removed. The bailer was used to disturb the water column within the well annulus to remove groundwater and well debris that may have been introduced during the installation and drilling, and to ensure a good connection between the screened borehole interval and the surrounding aquifer. Where practicable, a minimum quantity of three casing volumes of water was removed and the water was confirmed to be low in suspended solids. The well was then left to stabilise (seven days) prior to purging and sampling the following week.

Well installation details can be found within the bore logs presented in **Appendix D.**

3.3.4.6 Groundwater Sampling Methodology

Groundwater sampling was undertaken seven days after installation of groundwater monitoring wells. Wells were gauged for depth to product (if present), depth to water and depth to base from the TOC prior to sampling using an interface probe capable of detecting separate phase product. The interface probe was decontaminated prior to use at each well by rinsing with a phosphate free detergent (Decon-90) and potable water.

Prior to sampling, the wells were purged using new clean dedicated LDPE tubing and a low flow peristaltic pump to ensure minimal loss of VOCs. The wells were purged until recorded water quality parameters stabilised with respect to the previous reading. Stabilisation criteria were as follows: DO +/- 10%; EC +/- 3%; pH +/- 0.05; Redox +/- 10 mV. The physico-chemical parameters of the groundwater were recorded using a calibrated YSI water quality meter.

Groundwater samples were collected in laboratory supplied sample bottles which were labelled with the project identification code, sample name/location, sample date and who collected the sample. Groundwater samples for dissolved metals analysis were filtered in the field using a 0.45 micron filter and placed into a preserved laboratory supplied sample bottle.

Groundwater sampling field sheets can be found in **Appendix B** and calibration sheets can be found in **Appendix E.**

3.3.4.7 Aquifer Measurement Methodology

The location and elevation of monitoring wells was surveyed using a TOPCON HIPER SR RTK, staff and receiver. An average of three consecutive readings of the TOC within the accuracy of 0.000 m horizontal and 0.00 m vertical was recorded. Well elevations and standing water level was used to interpret groundwater depth and direction.

Groundwater contours are available in **Figure 3, Appendix A**.

The hydraulic conductivity of the aquifer was established by rising head slug tests at MW01 and MW02. A TD DIVER was lowered to the base of the well with a recording interval of 2 s. Five bailers chained together were simultaneously removed from the well to lower the head by approximately 2 m and the equilibration of standing water level was recorded over a two-hour period. Well characteristics and water head data were input into AquiferTest 9.0 with models Bouwer & Rice and Hvorslev used to establish the hydraulic conductivity of the aquifer.

Groundwater measurement field sheets can be found in Appendix B**.**

3.3.4.8 Surface Water Sampling Methodology

The surface water sampling procedure applied is summarised as follows:

- A dedicated lab-supplied sample container was attached to a sampling pole and lowered upside down into the surface water. The container was rotated and brought up through the water column to collect a representative sample of the water column directly into the container, taking care to ensure the water column and the base of the dam at the sampling location were not agitated during sampling.
- Laboratory supplied non-preserve and preserved sample bottles, were completely filled with decanted sample to avoid vacant headspace and the loss of volatiles, semi-volatiles and preservative.
- The surface water general characteristics, physico-chemical parameters (temperature, DO, EC, Redox, pH) and sample location were recorded.
- Sample containers were labelled with specific information including the sample location, project number, sampler details and time and date of sampling.

Surface water sampling field sheets are provided in **Appendix B.** Sampling locations are presented in Figure 4, **Appendix A**.

4 ASSESSMENT CRITERIA

Selection of the appropriate Tier 1 assessment involves the comparison of analytical data to published guideline criteria (typically presented as screening levels). Relevant criteria are selected based on the identified viable exposure routes and the available data. Where site data exceeds the screening levels or suitable screening levels cannot be identified, further consideration and in some cases a Tier 2 assessment is required.

4.1 Soil Assessment Criteria

The following soil assessment criteria (SAC) were adopted:

- NEPM (1999) Amended 2013, Health Investigation levels (HILs):
  - For this site, the HILs for Soil Contaminants for commercial/industrial land uses were adopted (HIL D). This scenario was selected to provide risk-based assessment on the development as an industrial estate. The HILs are applicable for assessing human health risk via relevant pathways of exposure.
- NEPM (1999) Amended 2013, Health Screening Levels for soil vapour intrusion (HSLs) Clay:
  - HSL D (commercial/industrial) are adopted to evaluate the risk posed from vapour intrusion. The soil HSLs are based on depth of impacts, overlying soil type and land use. The selection of HSL D was based on the intended use of the site, the potential receptor/s onsite and the exposure that may be experienced. After a review of subsurface conditions, the predominant soil type is clay at site locations with a depth greater than two meters.
- NEPM (1999) Amended 2013, Health Screening Levels for Asbestos in soil:
  - HSLs for asbestos (commercial/industrial) in soil have been adopted to evaluate the risk of potential fibrous and bonded ACM in soil. In accordance with NEPM (1999) the following assessment levels have been adopted: Bonded ACM 0.05%w/w; FA/AF 0.001 %w/w.
- NEPM (1999) Amended 2013, Ecological Screening Levels (ESLs):
  - ESLs for commercial/industrial have been adopted to evaluate the risk of selected petroleum hydrocarbon compounds and TPH fractions to terrestrial ecosystems. ESLs are generally applicable to the top 2m of soil. Arcadis have adopted the ‘fine’ soil assessment conditions.
- NEPM (1999) Amended 2013, Ecological Investigation Levels (EILs):
  - Site-specific EIL criteria were calculated as part of the PSI and have been adopted for this DSI. The adopted EILs, presented below in Table 4-1, and will be used to assess the risk of selected metals and organic substances risk to terrestrial ecosystems. EILs depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2 m of soil. The commercial/industrial criteria has been adopted based on the proposed land use.

Table 4-1 PSI Site Specific EILs

Physical Parameters			
Sample	**CEC (meq/100g)**	**pH (pH units)**	**% Clay**
TP01 0.5-0.6	17	5.1	33
TP01 3-3.1	4.5	4.6	23
TP02 1-1.1	13	5.3	24
Average	**11.5**	**5**	**26.7**
Investigation Levels			
Contaminant	**ABC**	**ACL**	**EIL**
		Commercial / Industrial	**Commercial / Industrial**
Arsenic[3]	Not Applicable	160	160
Chromium (III)	11	310	321
Copper	23	85[1]	108
DDT[3]	Not Applicable	180	180
Lead	161	1800	1961
Naphthalene[3]	Not Applicable	170	170
Nickel	5	55	60
Zinc	105	110[2]	215

[1] Selected utilising the CEC value to determine the most conservative ACL.
[2] Selected based on value for pH and CEC resulting in the most conservative ACL.
[3] Generic EIL

Source: JBS&G (2019) PSI, page 21.

- NEPC (1999) amended 2013, Management Limits (MLs):
  - MLs have been adopted to assess the presence of hydrocarbons within soil. The Commercial/industrial, fine soil MLs have been adopted.

Soil analytical guideline criteria are found in Table 4-2 below.

Table 4-2 Adopted Soil Assessment Criteria

Analyte	NEPM HIL-D (mg/kg)	NEPM HSL-D Clay (mg/kg)	NEPM ESL Comm/Ind (mg/kg)	PSI Calculated EILs Comm/Ind (mg/kg)	NEPM MLs Comm/Ind (mg/kg)
Arsenic	3,000	-	-	160	-
Cadmium	900	-	-	-	-
Chromium (as Cr VI)	3,600	-	-	321	-
Copper	240,000	-	-	108	-
Lead	1,500	-	-	1,961	-
Mercury	730	-	-	-	-
Nickel	6,000	-	-	60	-
Zinc	400,000	-	-	215	-
Benzene	-	4 (0-1m) 6 (1-2m) 9 (2-4m) 20 (>4m)	75	-	-

Analyte	NEPM HIL-D (mg/kg)	NEPM HSL-D Clay (mg/kg)	NEPM ESL Comm/Ind (mg/kg)	PSI Calculated EILs Comm/Ind (mg/kg)	NEPM MLs Comm/Ind (mg/kg)
Toluene	-	NL (0-1m) NL (1-2m) NL (2-4m) NL (>4m)	135	-	-
Ethylbenzene	-	NL (0-1m) NL (1-2m) NL (2-4m) NL (>4m)	165	-	-
Xylenes	-	NL (0-1m) NL (1-2m) NL (2-4m) NL (>4m)	185	-	-
F1 (C_6-C_{10}-Less BTEX)	-	310 (0-1m) 480 (1-2m) NL (2-4m) NL (>4m)	215	-	-
F2 – Naphthalene	-	NL (0-1m) NL (1-2m) NL (2-4m) NL (>4m)	170	-	-
TRH (C6-C10)	-	-	-	-	700
TRH (C10-C16)	-	-		-	1,000
TRH (C16-C34)	-	-	1,700	-	3,500
TRH (C34-C40)	-	-	3,300	-	10,000
Benzo(a)pyrene	-	-	1.4	-	-
Benzo(a)pyrene (TEQ)	40	-	-	-	-
Total PAHs	4,000	-	-	-	-
Naphthalene	-	NL (0-1m) NL (1-2m) NL (2-4m) NL (>4m)	-	170	-
Phenol	240,000	-	-	-	-
Chlordane	530	-	-	-	-
Chlorpyrifos	2,000	-	-	-	-
DDT	-	-	-	180	-
DDT+DDE+DDD	3,600	-	-	-	-
Endosulfan	2,000	-	-	-	-
Endrin	100	-	-	-	-
Heptachlor	50	-	-	-	-

Analyte	NEPM HIL-D (mg/kg)	NEPM HSL-D Clay (mg/kg)	NEPM ESL Comm/Ind (mg/kg)	PSI Calculated EILs Comm/Ind (mg/kg)	NEPM MLs Comm/Ind (mg/kg)
Hexachlorobenzene	80	-	-	-	-
Methoxychlor	2,500	-	-	-	-
PCBs	7	-	-	-	-

4.2 Sediment Assessment Criteria

The following sediment assessment criteria were selected:

- ANZG (2018) Interim Sediment Quality Guideline Trigger Values - ISQG-Low
  - The lower level sediment default guideline values (DGVs) have been selected to indicate the concentrations below which there is a low risk of unacceptable effects occurring (ANZG, 2018).
- ANZG (2018) Interim Sediment Quality Guideline Trigger Values - ISQG-High
  - ISQG-high has been selected to provide an indication of concentrations at which you might already expect to observe toxicity-related adverse effects (ANZG, 2018).

Parameter specific sediment assessment criteria are included in Table 1, **Appendix F.**

4.3 Surface Water and Groundwater Assessment Criteria

The following criteria have been adopted to assess surface water analytical results. ANZG (2018) freshwater 95% protection criteria have been adopted for the site to assess the impacts on toxicants. The NHMRC (2008) Australian primary contact recreation criteria have also been adopted to assess surface water quality. The ANZECC 2000 default trigger values for lowland rivers and freshwater lakes and reservoirs in south-east Australia have been adopted physico-chemical parameters. Adopted surface water criteria for this investigation and applicable results are provided in Table 4-2.

Groundwater assessment adopts the freshwater surface water criteria due to discharge points (adjacent surface water bodies, South Creek and Kemps Creek) maintaining freshwater ecosystems, despite the saline nature of groundwater in Bringelly Shale formations. Groundwater assessment criteria also adopts the GILs (NEPM 2013, Table 1C) GILs for freshwater and HSL D (Clay) for groundwater vapour intrusion. Drinking water criteria is not applicable to the industrial nature of the proposed site use. These criteria have been adopted to perform a baseline assessment of groundwater at the site. It is not expected that groundwater will be encountered during the development. Adopted groundwater criteria for this investigation and applicable results are provided in **Table 4-3** below.

Table 4-3 Adopted Surface Water Criteria

Analyte	NHMRC 2008 Primary Contact Recreation (µg/L)	NEPM HSL D (Clay) (µg/L)	ANZG (2018) Freshwater 95% toxicant DGVs (µg/L)	NEPM GILs (Freshwater) (µg/L)
Ammonia as N	-	-	900	-
Arsenic	100	-	-	13
Cadmium	20	-	0.2	0.2
Chromium (III+VI)	500	-	0.4	1

Analyte	NHMRC 2008 Primary Contact Recreation (µg/L)	NEPM HSL D (Clay) (µg/L)	ANZG (2018) Freshwater 95% toxicant DGVs (µg/L)	NEPM GILs (Freshwater) (µg/L)
Copper	20000	-	1.4	1.4
Lead	100	-	3.4	3.4
Mercury	10	-	0.06*	0.06
Nickel	200	-	11	11
Zinc	8	-	8	8
Benzene	10	30000 (2-4m) 35000 (4-8m) 30000 (>8m)	950	950
Toluene	8000	NL (2-4m) NL (4-8m) NL (>8m)	180	-
Ethylbenzene	3000	NL (2-4m) NL (4-8m) NL (>8m)	80	-
Xylene (o)	-	NL (2-4m) NL (4-8m) NL (>8m)	350	350
Xylene Total	6000	NL (2-4m) NL (4-8m) NL (>8m)	-	-
Benz(a)anthracene	0.12	-	-	-
Benzo(a) pyrene	0.1	-	-	-
Naphthalene	-	-	16	16
Aldrin + Dieldrin	3	-	-	-
Chlordane	20	-	0.08	0.03
DDT	90	-	0.01	0.006
Endrin	-	-	0.02	0.01
g-BHC (Lindane)	100	-	0.2	0.2
Heptachlor	3	-	0.09	0.01
Toxaphene	-	-	0.2	0.1
Azinophos methyl	300	-	0.02	-
Bolstar (Sulprofos)	100	-	-	-
Chlorfenvinphos	20	-	-	-
Chlorpyrifos	100	-	0.01	0.01
Diazinon	40	-	0.01	0.01
Dichlorvos	50	-	-	-
Dimethoate	70	-	0.15	0.15
Disulfoton	40	-	-	-

Analyte	NHMRC 2008 Primary Contact Recreation (µg/L)	NEPM HSL D (Clay) (µg/L)	ANZG (2018) Freshwater 95% toxicant DGVs (µg/L)	NEPM GILs (Freshwater) (µg/L)
Ethoprop	10	-	-	-
Ethion	40	-	-	-
Fensulfothion	100	-	-	-
Fenitrothion	70	-	0.2	0.2
Fenthion	70	-	-	-
Malathion	700	-	0.05	0.05
Methyl parathion	7	-	-	-
Mevinphos (Phosdrin)	50	-	-	-
Monocrotophos	20	-	-	-
Omethoate	10	-	-	-
Parathion	200	-	0.004	0.004
Pyrazophos	200	-	-	-
Terbufos	9	-	-	-
Tetrachlorvinphos	1000	-	-	-
Pirimiphos-methyl	900	-	-	-

* This assessment adopts the ANZG (2018) freshwater 95% species protection level default guideline values for most analytes. The 99% species protection criteria has been adopted for mercury as the ANZG (2018) state: "*To account for the bioaccumulating nature of this toxicant, it is recommended that the 99% species protection level DGV is used for slightly to moderately disturbed systems*"

4.4 Indicative Waste Classification Assessment Criteria

For the purposes of indicative waste classification in-situ fill material, NSW EPA 2014 Waste Classification guidelines were adopted and compared against analytical results for the soil samples. These results and criteria are tabulated in Table 2, **Appendix B**.

Soil analytical guideline criteria are found in Table 4-4 below.

Table 4-4 Adopted Waste Classification Criteria

Analyte	NSW 2014 General Solid Waste CT1 (No Leaching) (mg/kg)	NSW 2014 Restricted Solid Waste CT2 (No Leaching) (mg/kg)
Arsenic	100	400
Cadmium	20	80
Chromium (III+VI)	100	400
Lead	100	400

Analyte	NSW 2014 General Solid Waste CT1 (No Leaching) (mg/kg)	NSW 2014 Restricted Solid Waste CT2 (No Leaching) (mg/kg)
Mercury	4	16
Nickel	40	160
C6-C9	650	2600
C10-C36 (Sum of total)	10000	40000
Benzene	10	40
Toluene	288	1152
Ethylbenzene	600	2400
Xylene Total	1000	4000
Benzo(a) pyrene	0.8	3.2
PAHs (Sum of positives)	200	800
PCBs (Sum of total)	<50	<50
Endosulfan	60	240
Chlorpyrifos	4	16

5 QUALITY ASSURANCE / QUALITY CONTROL RESULTS

5.1 Field Quality Assurance / Quality Control

5.1.1 Details of Sampling Team

Monitoring wells were installed with subsurface samples collected by Arcadis Environmental Scientist Tom Keatley, who is appropriately experienced and trained in the collection of samples and intrusive digging. Soil samples (test pits and manual excavation) and groundwater, surface water and asbestos samples were collected by Arcadis Environmental Scientists Michael Ashelford and Jack Palma, who are appropriately experienced and trained in the collection of samples and intrusive digging.

5.1.2 Decontamination Procedures Between Sampling Events

Several items were re-used during sampling events at the site. These include the excavator bucket, auger flights, a stainless-steel bailer, hand trowel, asbestos sieve and an interface probe.

Most equipment except the excavator bucket and auger flights were de-contaminated with a mix of 'Decon 90' and water, then rinsed using potable water and de-ionised water after each sampling event to avoid cross contamination. Disposable sample tubing was used at each monitoring well and disposable gloves were replaced between collected each sample.

5.1.3 Chain of Custody

Soil, sediment, surface water and groundwater samples were transported to the laboratory under a 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 signature and sample received date. COCs are provided in **Appendix G** along with the laboratory reports.

5.1.4 Sample Splitting Techniques

Soil samples were replicated by collecting representative samples of the soil sample at the same depth interval. Due to the potential loss of volatiles, samples were not mixed and separated, but replicate samples were collected.

5.1.5 Rinsate Sample Results

One field water sample was collected on October 8, 2019 in place of a rinsate sample. Field water was used as part of the primary decontamination procedure prior to de-ionised water rinsing, as well as for coagulating down-hole auger cuttings for removal. Cr, Cu, Pb and Zn were detected above the LOR; however, concentrations are low and Arcadis does not consider field water to have impacted analytical results due to further decontamination stages and extensive well development.

Three rinsate samples were collected on October 16, 2019 and November 27- 28, 2019 sampling events. The rinsate samples were collected by running de-ionised water over the trowel used for soil sampling directly into vials. The samples were analysed for metal(loid)s.

Analytical results for the rinsate sample show metal(loid)s as below laboratory LOR except for Ni and Zn. Zn concentrations reported in rinsate samples were below those reported from the field water sampled and thus are not considered to be evidence of potential cross contamination. Minor concentrations of nickel were also reported in rinsate samples collected on November 27 and 28, 2019. No adopted guidance was exceeded for Ni and as such the detects in the rinsate are not considered to significantly affected the integrity of the results.

5.1.6 Trip Blanks

A trip blank was collected for soil during intrusive works between October 8-9, 2019. A water trip blank was collected during the groundwater monitoring event (GME) on October 16, 2019 and November 27, 2019 as part of phase 2 sampling works. The trip blanks were prepared by the laboratory and were transported to the analytical laboratory in an esky with the other samples collected during the works under CoC. The trip blanks were analysed for BTEX in the respective media.

Analytical results for both the groundwater and soil trip blank returned BTEX compounds below laboratory LOR. Hence, it is unlikely that observed BTEX concentrations in soil and groundwater are due to cross contamination.

5.1.7 Trip Spikes

Three trip spikes were prepared by the laboratory and was transported to the site during each field sampling event (October 8-9, 2019; October 16, 2019 and November 27, 2019. The trip spikes were transported to the analytical laboratory in an esky with the other samples collected during the works under CoC. The trip spikes were analysed for the presence of TRH and BTEX in the respective media. Both the groundwater and the soil trip spikes returned analytical results for percentage recovery within the adopted recovery limits of 30% - 150%.

5.1.8 Statement of Duplicate Frequency

Primary samples were submitted to NATA Accredited Laboratory Eurofins and secondary samples submitted to NATA Accredited Laboratory Australian Laboratory Services (ALS).

The following field QA/QC samples were analysed:

- **Soil**
  - QA1 (intra-laboratory duplicate) and QA2 (interlaboratory duplicate) are duplicates of TP104A – 0.2.
  - QA001-TK (intra-laboratory duplicate) and QA002-TK (interlaboratory duplicate) are duplicates of MW02_2.0.
  - QA3 (intra-laboratory duplicate) and QA4 (interlaboratory duplicate) are duplicates of SO05.
  - QA5 (intra-laboratory duplicate) and QA6 (interlaboratory duplicate) are duplicates of DS02.
- **Surface Water/Groundwater**
  - QA1 (intra-laboratory duplicate) and QA2 (interlaboratory duplicate) are duplicates of groundwater sample MW06.

No duplicates were collected for surface water, as the same analytical methods used by the laboratory for surface water are also used for groundwater, hence eliminating the need to analyse duplicates for surface water.

Duplicates were collected at the following frequency:

- Surface water/groundwater duplicate frequency: 1:11.
- Soil duplicate frequency: 2:43 (1:22).

Sampling duplicates for surface water/groundwater were collected at a rate inside of the adopted 1:20 frequency.

Sampling duplicates for soil were collected at a rate marginally outside of the adopted 1:20 frequency in accordance with the Australian Standard 4482.1-2005 '*Guide to the investigation and sampling of sites with potentially contaminated soil*'. However, the collected rate is only slightly higher than the recommended rate and Arcadis doesn't consider this to have significantly affected the integrity of the results. The overall QA/QC ratio for the DSI is 3:54.

5.2 Laboratory Quality Analysis / Quality Control

Refer to **Appendix G** for details of the laboratory QA/QC reported by the primary and secondary laboratories as part of this assessment. Where exceedances have been observed, comment on the validity of data has been made.

5.2.1 Holding Times

Samples were delivered to the primary and secondary laboratories within holding times in a chilled cooler and were transferred directly into a refrigerator, minimising the loss of volatiles over time. Some holding time breaches were reported by the secondary laboratory for batch ES1939785 due to being one day late for extraction. These groups were:

- Phenolic Compounds,
- PAH,
- Phthalate Esters,
- Nitrosamines,
- Nitroaromatics and Ketones,
- Haloethers,
- Chlorinated Hydrocarbons,
- OC/OP pesticides.

From the samples in batch ES1939785 the only detect from these samples were:

- Disulfoton at the detection limit in sample DS02, which is the primary sample for QA5 and QA6, for which Disulfoton was not detected.
- Naphthalene in sample HA15B-0.6.

These CoPC have either no available value or are not limiting for the adopted guidance, thus the holding time exceedances are not considered to have significantly affected the integrity of the results.

5.2.2 Laboratory Accreditation and Analytical Methods Used

The primary laboratory was Eurofins Environment Testing Australia Pty Ltd (Eurofins) and the secondary laboratory was ALS Environmental (ALS).

Eurofins are accredited by NATA to ISO/IEC 17025, accreditation Number 1261, while ALS holds accreditation number 825.

Laboratory QA/QC is provided within the laboratory reports in **Appendix G.**

5.2.3 Percent Recoveries of Surrogates and Spikes

5.2.3.1 Laboratory Surrogate Recoveries

Table 5-1 summarises the compounds which exceed the normal laboratory surrogate recovery ranges (surrogate variation > 25% or outside lab lower confidence limit (LCL) or upper confidence limit (UCL).

Table 5-1 Surrogate Recoveries

Compound	Recovery % (Lowest observed to highest observed)	Number of exceedances
2-Fluorobiphenyl	50-73	23
4-Bromofluorobenzene	64-144	9
Dibutylchlorendate	54-140	14
p-Terphenyl-d14	54-142	15
Tetrachloro-m-xylene	58-135	3
Triphenylphosphate	20-74	5

A review of the analytical data was performed and Arcadis does not consider that these surrogate exceedances have affected the integrity of the data. Other Laboratory Surrogate Recoveries were reported within the specified ranges.

5.2.3.2 Laboratory Control Spike Recoveries

No Laboratory Control Spike Recovery exceedances were observed within the analytical results.

5.2.3.3 Laboratory Duplicate Relative Percent Difference (RPD)

Laboratory duplicate RPD exceedances for PAHs and TRH C_{10}-C_{40} were observed for soil. The laboratory considers that these RPD exceedances are due to variations in sampled material used for the duplicate. Arcadis considers that this RPD exceedance is likely due to the heterogeneity of the sampled material. The RPD exceedance for TRH C_{10}-C_{40} is not present in fractions F1-F4 and is an artefact of the LOR impacting total TRH RPDs.

No RPD exceedances for water were observed.

5.2.3.4 Laboratory Matrix Spike results

Laboratory matrix spikes were reported by the laboratories to be within the acceptable limits.

5.2.4 Laboratory Standard Solution Results

Standard solution (or LCS – laboratory control sample) were within acceptable range for both soil and water.

5.2.5 Laboratory Duplicate Results

No laboratory duplicate analyte exceedances were observed for soil or water matrixes, with a maximum RPD of 16 between the primary and sub-sampled results.

5.2.6 Laboratory Method Blank results

No laboratory method blank exceedances existed for either soil, sediment, surface water and groundwater samples.

5.2.7 Laboratory QA/QC Summary

A summary of laboratory QA/QC is available below in Table 5-2.

Table 5-2 Laboratory QA/QC Summary

Item	Description
Chain of Custody	A copy of signed COC forms acknowledging receipt date and time, and identity of samples included in shipments are provided in **Appendix G**.
Holding Times	Primary and secondary soil and groundwater samples were generally collected and sent to the primary and secondary laboratories within specified holding times except for one secondary sample. No sample analysis recommended holding time exceedances were reported by the laboratories.
Laboratory Accreditation	The primary and secondary laboratories are both NATA accredited for analytes tested for during the investigation. The primary laboratory used for analysis of soil and water was Eurofins Environment Testing Australia Pty Ltd (Eurofins). Eurofins are accredited by NATA to ISO/IEC 17025, Accreditation Number 1261. The secondary laboratory used for soil and water was Australian Laboratory Services (ALS) to ISO 17025 Accreditation Number 825.
Laboratory Performance (Inter-laboratory samples and analytical methods)	The primary and secondary laboratories both used consistent analytical methods for each analyte tested for.
Matrix and LOR assessment	As per the approved scope of work, soil, surface water and groundwater were sampled. The LOR for soil analytes were less than the adopted SAC. The LOR for surface water and groundwater analytes were below the adopted GAC.
Laboratory Control Sample (LCS) Results	LCS results were reported by the laboratories to be within acceptable ranges.
Laboratory Duplicate Results	Laboratory duplicate samples were reported by both the laboratories to be acceptable.
Laboratory Blank Results	Laboratory blank samples were reported by both the laboratories to be acceptable.
Matrix Spike Results	Laboratory matrix spikes were reported by the laboratories to be within the acceptable limits.

5.3 QA/QC Data Evaluation

5.3.1 Evaluation of the QA/QC Information Compared to the DQOs

- Documentation completeness:
  - Soil logs, chain-of-custody forms, calibration were complete and appropriate.
- Data completeness:
  - Samples were received by the laboratories and analytical results reported including laboratory QA/QC.
- Data comparability:
  - Arcadis standard operating procedures, Australian Standards and industry recommended practice were followed during sampling;

  - Consistent field conditions and similarly trained staff were used during sampling; and
  - The limits of reporting are appropriate and generally consistent from each laboratory.
- Data representativeness:
  - The frequency of laboratory blanks was acceptable, and the results were within specified ranges.
- Precision:
  - Intra-laboratory and inter-laboratory duplicates were collected at the following rates:
    - Soil intra-laboratory and inter-laboratory duplicates were collected at a frequency of 1:20.
    - Surface water/groundwater intra-laboratory and inter-laboratory duplicates were collected at a frequency of 1:9.

QA/QC sample collection rate follows the guidance provided in the Australian Standard Field procedures (AS1482.1 2005).

5.3.2 Relative Percentage Difference

Refer to **Appendix H** for Relative Percent Difference (RPD) calculations.

RPDs for soil were reported within acceptable ranges with the exception of:

- TRH C_{10}-C_{40} TP104_0.2-QA2 with and RPD of 86%
- PAHS (Benz(a)anthracene, Benzo(a) pyrene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Phenanthrene and Sum of PAHs) with RPDs of 89-189%
  - Observed exceedances of Benzo(a)pyrene TEQ calc (LOR) RPD criteria are due to the differing levels of conservatism between labs in calculating Benzo(a)pyrene TEQ.
  - Exceedances of PAH (sum of positives) RPD within soil is likely due to due to the inclusion of fine charcoal fragments observed in natural material. Arcadis is confident that the exceeding RPDs for soil will not affect the integrity of the analytical data.

RPDs for water were reported within the acceptable range as results reported < LOR.

6 RESULTS

6.1 Field Observations

The following section presents the overview of the field observations encountered during the on site field works.

6.1.1 Site Walkover

6.1.1.1 PACM

A walkover of exposed on site roads, access tracks and stockpiles presumably used for top-dressing tracks identified crushed aggregate and building materials, however no PACM was identified.

PACM was identified on surface soils surrounding former buildings, working areas and rubbish piles, particularly evident on Lot 54.

The results of PACM analysis are presented in Table 3, **Appendix F** and photos of PACM are presented in **Appendix I**. No PACM was observed within soils.

6.1.1.2 Timber Posts

The timber posts on site were generally erected between cadastral boundaries, however some post setting also existed within individual lots. Post set ups were not the same across the lots. Generally, posts were approx. 5.0 m to 10 m in separation. Rough estimates on perimeter fencing distance is 5,000 m, indicating up to potentially between 500 and 1,000 individual posts.

There were no organoleptic impacts reported at timber post locations.

6.1.2 Soil Field Observations

On site soil generally comprised of a moist humic-rich re-worked natural (clay-silty clay) or fill (silty clay) surface (topsoil) from 0-0.3 m bgl supporting dense grass-like vegetation, extending rootlets beyond the O-horizon. Natural material (dense dark brown clays) generally extended from 0.2-0.5 m bgl downwards, with lithology varying to light brown/light grey leached clays and deeper weathered shales. Fill observed in test pits adjacent dams was consistent with re-worked natural material deposited during dam excavation.

Detailed descriptions of soil logged during drilling and test pitting operations are presented in **Appendix D**.

PID calibration results are included in **Appendix B,** with PID readings presented in the sample logs included in **Appendix D**.

6.1.3 Surface Water Field Observations

Five surface water samples were collected from the five dams identified across the site in order to evaluate the quality of the water by Arcadis on 23rd October 2019. Surface water generally contained low suspended solids, was clear and maintained no sheen or odour. DW01-03 contained plastic waste from farming practices in sub-aqueous and sub-aerial environments. The locations of the dam and the sampling points are presented in Figure 4, **Appendix A**. Photos of the dams are presented in **Appendix I.**

6.1.3.1 Physico-Chemical Parameters

Water quality parameters were recorded for each of the surface water samples collected from the five dams and are provided in the Table 6-1 below.

Table 6-1 Physico-Chemical Parameters

Dam	Date	pH	Temp (˚C)	EC (µS/cm)	DO (mg/L)	ORP (mV)*	Flow	Comments
Dam01	16.10.19	8.34	20.8	1785	6.31	301.9	Stagnant	Low water volume in dam
Dam02	16.10.19	9.19	24.3	1498	13.56	287.3	Stagnant	Algae present
Dam03	16.10.19	9.41	24.6	1544	18.09	283	Stagnant	Algal growth, barrels in water + bag
Dam04	16.10.19	8.13	22.3	1313	7.03	301.6	Stagnant	Emergents, no algae
Dam05	16.10.19	7.14	24.8	2656	0.94	320.3	Stagnant	No emergents, blood worms, excavated soil.

Based on the physico-chemical data collected during surface water sampling, the following conclusions have been made:

- pH values indicate that the surface water is neutral to basic, with locations except Dam05 which exceeded the ANZECC 2000 default trigger value upper limit for Freshwater Lakes and Reservoirs in south-east Australia of 8.0 pH units.
- The conductivity values indicate that the dam water is fresh to brackish, with locations exceeding the ANZECC 2000 default trigger value upper limit for Freshwater Lakes and Reservoirs south-east Australia of 20-30 µS/cm and Dam05 exceeding the upper limit for lowland rivers of 2200 µS/cm.
- DO indicates anaerobic conditions within Dam05, and aerobic conditions in dams 1-4.
- Oxygen reduction potential (ORP) indicates a moderate to high (positive) ORP, suggesting an oxidative environment.

6.1.4 Groundwater Field Observations

Groundwater sampled on October 16, 2019 (MW01, MW02, MW04, MW05, MW06) and October 23, 2019 (MW03) was observed to be of moderate to low turbidity at most locations, except for MW06, which maintained very low turbidity.

No sheens or odours were observed in purged groundwater except MW01 which held a biogenic sheen. No wells were purged dry and recharge was observed to be suitable for peristaltic pump sampling.

Water quality parameters recorded during the groundwater sampling are provided in Table 6-2.

Table 6-2 Field Groundwater Physico-Chemical Parameters

Monitoring well	Date	pH	Temp (˚C)	EC (µS/cm)	DO (mg/L)	ORP (mV)*	Comments
MW01	16.10.19	6.921	15.5	14,068	1.22	346.1	Biogenic sheen, no odour
MW02	16.10.19	6.81	17.8	19,646	1.06	328.6	No sheen, no odour
MW03	23.10.19	6.68	21.1	21,256	7.48	364.6	No sheen, no odour
MW04	16.10.19	6.44	19.2	18,636	1.58	347.1	No sheen, no odour
MW05	16.10.19	6.55	19.2	19,783	0.64	357.1	No sheen, no odour
MW06	16.10.19	6.96	20.3	16,288	3.2	324.1	Clear, no sheen, no odour

Water quality data collected during groundwater sampling can be found in **Appendix B**.

Based on the physico-chemical data collected during groundwater sampling, the following conclusions have been made:

- pH values indicate that the groundwater is neutral to slightly acidic.
- Conductivity ranged from 14,068 to 21,256 µS/cm, indicating brackish water, however this may be impacted from conductive ions in turbid suspended clay water.
- DO ranges from 0.64 to 7.48 mg/L, indicating a low level of dissolved oxygen within the groundwater aquifer.
- ORP ranged between 324.1 mV and 364.6 mV, indicating a moderate to high (positive) ORP, suggesting an oxidative environment.

Standing water level in monitoring wells MW01 to MW06 was observed to be between RL 38 m and 57 m AHD, generally following the gradient of the land surface. Groundwater contours and flow direction are presented in **Figure 3, Appendix A**.

Table 6-3 Monitoring Well Observations

Monitoring well	Date	X (UTM 56 – GDA94)	Y (UTM 56 - GDA94)	Elevation (m TOC-AHD)	Depth to water (m TOC)	DTB (TOC)	Standing Water Level (m AHD)
MW01	16.10.19	6253425	294732.3	42.198	4.220	9.057	37.978
MW02	16.10.19	6253413	295305.1	51.525	3.249	11.795	48.276
MW03	23.10.19	6252758	294943.7	61.429	8.310	11.100	53.119
MW04	16.10.19	6252998	295177.3	51.168	3.636	9.045	47.532
MW05	16.10.19	6253089	295271.7	49.925	2.527	9.458	47.398
MW06	16.10.19	6253158	295551.8	62.123	4.946	11.390	57.177

Notes:

Top of casing (TOC)
Australian Height Datum (AHD)
Geocentric Datum of Australia 1994 (GDA94)
Universal Transverse Mercator (UTM) [Zone 56]

The hydraulic conductivity of the aquifer was measured at two locations (MW01 and MW02) via rising head slug tests, with similar K values reported when modelled with Bouwer & Rice and Hvorslev methods. Reported K values in meters per day are presented in Table 4, **Appendix F.**

Table 6-4 Aquifer Hydraulic Conductivity

Monitoring well	Hydraulic Conductivity using Bouwer & Rice (m/d)	Hydraulic Conductivity using Hvorslev (m/d)
MW01	2.03×10^{-1}	2.60×10^{-1}
MW02	7.16×10^{-2}	9.02×10^{-2}

6.2 Analytical Results

The following section summarises the analytical results for soil, PACM, surface water and groundwater.

6.2.1 Soil Analytical Results

A total of 73 soil samples were analysed from test pits, monitoring wells and adjacent timber posts.

Six samples reported marginally above the adopted ESL for commercial/industrial sites. Two samples exceeded the adopted EIL for Zn. A summary of the ESL and EIL exceedances are presented in Table 6-5 below and Figure 8, **Appendix A**.

Table 6-5 Summary of Soil Exceedance Analytical Results

Analyte	Guideline Value (mg/kg)	Min (mg/kg)	Max (mg/kg)	Locations Exceeding Adopted Criteria
Benzo(a)Pyrene	1.4 (ESLs)	<0.5	1.5	MW02_2.0
F2	170 (ESLs)	<50	1396.6	HA15B-0.05, HA15B-0.15, HB15B-0.6
C_{10} – C_{16}	1,000 (ESLs)	<50	1,400	HB15B-0.6
Zn	215 (EILs)	11	970	SO01 and SO03

Sample location HA15B reported concentrations of F2 above the adopted ESL. Across three vertical samples the F2 results ranged as follows:

- 210 mg/kg at HA15B-0.05
- 620 mg/kg at HA15B-0.15
- 1,396.6 mg/kg at HA15B-0.6

The next vertical sample HA15B-0.8 reported a F2 concentration of 99 mg/kg, which is below the adopted ESL.

Sample location MW02_2.0 reported concentrations of Benzo(a)pyrene above the adopted ESL. Other PAHs were also reported > LOR at this location at concentrations that do not exceed the adopted guidelines.

Sample locations SO01 and SO03 exceeded the site specific EIL for Zn.

No samples were reported above the HILs for commercial/industrial sites A summary of metals is soils is presented in Table 6-6 below.

Table 6-6 Metals in Soils

Analyte	Min (mg/kg)	Max (mg/kg)	Standard Deviation	HILs Commercial/Industrial (mg/kg)
Arsenic	3.6	21	4	3000
Cadmium	<0.4	<0.4	0	900
Chromium (III+VI)	9.9	62	9.8	240000
Copper	8.6	57	8.6	1500
Lead	6.8	62	9.7	730
Mercury	<0.1	<0.1	0	6000
Nickel	<5	50	7.2	400000
Zinc	11	970	142	3000

The majority of organic analytes reported < LOR in most samples, however TRHs reported above the LOR at TP104_0.2 (>C_{10}-C_{40} of 400 mg/kg, predominantly F3 and F4 range) but below the HSL-D (Non Limited). This sample was vertically delineated with TP104_0.5 reporting < LOR.

Metals reported > LOR for analytes in most samples except for Cd and Hg, which reported < LOR.

Metals in soils adjacent to timber posts reported within the variation of concentrations reported for soils across the site, indicative of background concentrations.

There was no reported creosote at the timber post locations analysed.

No asbestos or trace asbestos was detected in surface soil samples and fill submitted to the laboratory for asbestos identification. Summary tables displaying reported analyte concentrations screened against the adopted criteria are provided in Table 5, **Appendix F.**

Copies of the laboratory reports are provided in **Appendix G.**

6.2.1.1 Indicative Waste Classification

The NSW EPA General Solid Waste (GSW) CT1 criteria were exceeded at two locations (SO01 and MW02_2.0). Exceedances are summarised in **Table 6-7** and Figure 9, **Appendix A**. Remaining soil samples do not exceed the CT1 criteria.

Where waste is proposed to be removed from site appropriated waste classification will be required.

Tabulated indicative waste classification results are presented in Table 2, **Appendix F**.

Table 6-7 Waste Classification Exceedances

Analyte	Guideline Value (mg/kg)	Min (mg/kg)	Max (mg/kg)	Locations Exceeding Adopted Criteria
Nickel	40 (GSW)	<5	50	SO01
Benzo(a)pyrene	0.8 (GSW)	<0.5	1.5	MW02_2.0

6.2.2 Sediment Analytical Results

Four exceedances of the ANZECC (2000) Interim Sediment Quality Guideline Trigger Values - ISQG-Low. No exceedances of the ISQG-High was recorded. Table 6-81 below summaries the exceedances of the ISQG-Low. Figure 10, **Appendix A** shows the locations of the exceedances.

Table 6-8 Dam Sediment exceedances of the adopted ISQG-Low assessment criteria.

Analyte	ISQG-Low (mg/kg)	Min (mg/kg)	Max (mg/kg)	Locations Exceeding Adopted Criteria
Arsenic	20	8.6	22	DS01, DS02
Lead	50	21	53	QA5
Nickel	21	7	41	DS05

In addition, Benzo(a)pyrene concentrations in DS05 exceeded the CT1 'General Solid Waste' (GSW) under the NSW EPA (2014) Waste Classification Guidelines. No leachate analysis has been conducted.

Summary tables displaying reported analyte concentrations screened against the adopted criteria are provided in Table 1, **Appendix F**. Copies of the laboratory reports are provided in **Appendix G**.

6.2.3 PACM Analytical Results

The PSI detected chrysolite asbestos fines at HA13, however concentrations were below the %w/w assessment criteria. The DSI identified ACM at the following locations:

- ACM samples ASB01 (Lot 58) and ASB04 (Lot 57) reported detection of Chrysotile and amosite asbestos
- ASB02 (Lot 58) reported detection of chrysotile asbestos and organic fibres.

ASB03 (Lot 55) reported organic fibres, but no trace asbestos was detected.

The location of ACM samples are presented in Figure 11, **Appendix A** and laboratory results are summarised in Table 2, **Appendix F.**

6.2.4 Surface Water Analytical Results

Analytes (filtered metals, TRH, BTEXN, PAH, PCB and OCP/OPP) at surface water sampling locations reported < LOR except for As, which reported between 1 µg/L and 2 µg/L; and Ni, which reported between 1 µg/L and 2 µg/L.

Table 6-9 Metals in Surface Waters

Analyte	Min (µg/L)	Max (µg/L)	ANZG (2018) Freshwater 95% toxicant DGVs (µg/L)
Arsenic	1	2	13
Nickel	1	2	11

Summary tables displaying reported analyte concentrations screened against the adopted criteria are provided in Table 6, **Appendix F.** Copies of the laboratory reports are provided in **Appendix G**.

6.2.5 Groundwater Analytical Results

Exceedances of the ANZG (2018) DGVs and NEPM (2013) GILs were reported for Cd, Cu and Zn, summarised in Table 6-10 and Figure 12, **Appendix A**.

TRH C_{10}-C_{16} and >C_{10}-C_{16} less naphthalene (F2) were recorded above the LOR of 50 µg/L which is well below the adopted criteria (Non Limiting). Other analytes (filtered metals, TRH, BTEXN, PAH, PCB and OC/OP pesticides) reported < LOR.

Table 6-10 Summary of Groundwater Exceedance Analytical Results

Analyte	Guideline Value (mg/kg)	Min (mg/kg)	Max (mg/kg)	Locations Exceeding Adopted Criteria
Cadmium	0.2 (DGVs, GILs)	<0.2	0.3	MW03, MW04
Copper	1.4 (DGVs, GILs)	<1	2	MW03
Zinc	8 (DGVs, GILs)	<5	47	MW02, MW03, MW04, MW06

Summary tables displaying reported analyte concentrations screened against the adopted criteria are provided in Table 7, **Appendix F.** Copies of the laboratory reports are provided in **Appendix G.**

6.3 Extent of Uncertainties in the Results

The sampling methodologies used by Arcadis during this investigation have been designed to limit uncertainty in the results. Arcadis notes that the results of this investigation are appropriate to provide confidence to Mirvac regarding risks associated with soil and/or groundwater contamination. In subsurface investigations, the potential remains for variability between sampling points and for conditions to be different on site from the conditions reported herein.

7 DISCUSSION

7.1 Summary of Findings

7.1.1 Soil

- Soil was generally composed of a silty clay topsoil extending from 0.1-0.3 m depth, underlain by natural clays from 0.3-0.5 m down profile. Natural material was generally undisturbed, except for soils adjacent to dams, where re-worked natural material is present, overlying existing topsoil and natural soil sequences. Clay subsoils are underlain by weathered shales.
- Exceedances of adopted Tier 1 criteria were limited to Benzo(a)Pyrene at MW02_2.0 along with F2 and C_{10} – C_{16} at location HA15B.
- The Benzo(a)pyrene result was marginally above the adopted ESL for commercial/industrial sites. Laboratory duplicate results (QA1 and QA2) for this analyte in this sample resulted in < LOR for B(a)P. A total of 45 samples were collected and analysed from natural material and most except MW02_2.0 resulted in a concentration <LOR for benzo(a)pyrene. As this sample is within natural material, this result is possibly due to the presence of fine charcoal fractions identified in some soil profiles. Additionally, there was no reported odour or discolour within the soil logs at this location. Arcadis considers this marginal ESL exceedance an anomaly.
- The highest F2 result at HA15B was an order of magnitude against the guidelines, that being 1,360 mg/kg against a guideline of 170 mg/kg.
- The C10 – C16 result at HA15B was 50% higher than the guidelines, that being 1,400 mg/kg against a guideline of 1,000 mg/kg.
- Sample location HA15B will be recommended for further investigation and/or management.
- Samples locations SO01 and SO03 reported concentrations of Zn above the EIL, being 970 mg/kg and 300 mg/kg respectively, against a guideline value of 215 mg/kg.
- The sampling program undertaken at the locations identified in the PSI as exceeding the EIL indicated the following:
  - HA01B – vertical delineation of Zn achieved.
  - HA06B – vertical delineation of Zn achieved.
  - HA18B – vertical delineation of Zn achieved.
  - Hand augering was unable to be completed at HA13 due to the livestock; and
  - Hand augering could not be completed at location HA08 to refusal on dense geology.
- No exceedances of other adopted site assessment criteria were present.
- Indicative waste classification (Section 6.2.1.1) for fill, soils and sediment encountered during intrusive works indicate that the fill material may be suitable for disposal as CT1 'General Solid Waste' (GSW) under the NSW EPA (2014) Waste Classification Guidelines, with the exception of the following samples where elevated concentrations were observed:
  - SO01 – exceeding GSW guidelines for Ni.
  - MW02_2.0 – exceeding GSW guidelines for Benzo(a)pyrene.
- Further sampling and a leachability study of these locations may reduce the classification of these samples to within GSW CT1.
- Further sampling of in-situ fill material is required to achieve the required analytical density for a full waste classification of fill materials. Arcadis notes that this indicative waste classification does not meet the sample density for in-situ waste classification and can-not be substituted for a waste classification letter required to dispose of on-site material.

- Although GSW-Recyclables (GSW-R, GSW with concentrations < CT1 criteria) is not a recognised waste classification category in NSW EPA 2014, there are licensed recycling facilities that can accept GSW-R.

7.1.2 Dam Sediments

Arsenic and Pb concentrations in two primary and one triplicate sediment sample (DS01, DS02 and QA5) marginally exceeded the interim sediment quality 'low' guidelines by less than one standard deviation.

Nickel concentrations in DS05 was approximately two times ISQG-low assessment criteria, indicating the sediment may pose a potential risk.

As the site is proposed to be developed into an industrial / commercial site, the sediment results were compared against the soil HIL-D and EIL-D for indicative purposes only. No exceedances of the HIL or EIL industrial/commercial assessment criteria were recorded, indicating the risk posed by the sediment is low. Management of the dam decommissioning could include additional testing to classify the deeper sediments which were inaccessible during this DSI due to water.

Metal concentrations were below the adopted indicative waste classification assessment criteria.

7.1.3 Surface Water

- Surface water samples reported analytes below the adopted criteria.
- Physico-chemical parameters exceeded the adopted guidelines for pH and EC.
  - The high pH of Dam03 coincides with visually observed pollution from plastics and on site farm materials. Downgradient dams, Dam02 and Dam01, are lower in pH yet still exceed the adopted default trigger values.
  - EC is likely increased due to the moderate turbidity from suspended clays, which are conductive and increase EC values. Recorded values in Dams01-04 are within the range of default trigger values for lowland rivers, which account for increased conductivity during low flow/rainfall periods, as observed during sampling in October 2019.
  - Dam05, with minimal catchment impacts, has been excavated to a greater depth and it is possible that the lower pH and higher conductivity is a result of inputs from groundwater.

7.1.4 Ground Water

- Groundwater exceeded the adopted DGVs and GILs for Cd (MW03 and MW04), Cu (MW03) and Zn (MW02, MW03, MW04 and MW06).
  - The exceedance of the adopted criteria for metals can be attributed to the elevated background concentrations of metals in the clay soil and weathered shale substrate observed on the site.
- Groundwater has a moderate EC (14,068 to 21,256 µS/cm) and maintains a neutral to slightly acidic pH.
  - Electrical conductivity is within the range of previously published values for Bringelly Shale, which range between 3,990 µS/cm and 40,800 µS/cm.
- The hydraulic conductivity of groundwater ranges between 2.03 x 10-1 and 9.02 x 10-2 m/day.
- Arcadis understands that groundwater is unlikely to be encountered during earthworks.

7.1.5 PACM

- No PACM was observed on roads or open paddocks.
- No asbestos contaminated material was identified in soils at sampled locations.

ACM was detected at the following locations:

- ACM was also reported within building examined as part of the HAZMAT Survey.
- Fragments of PACM on surface soils surrounding buildings reported detectable asbestos.
- Fibre board sheeting (intact) dumped on site did not report to contain asbestos (ASB03).
- ACM was identified at Lot 54.
- Chrysotile and/or amosite asbestos was detected ACM samples collected at ASB01 (Lot 58), ASB02 (Lot 58) and ASB04 (Lot 57), however no friable fibres were reported.
- During the PSI trace asbestos fibres were recorded at HA13, however concentrations were below the adopted %w/w assessment criteria.

8 CONCEPTUAL SITE MODEL

A Conceptual Site Model (CSM) describes the potential environmental and human health risks of identified areas of possible soil and groundwater contamination. The CSM outlines the intact and/or potential pathways between the known or potential source(s) and the receptor(s).

Based on the information available for the site from the PSI (JBS&G, 2019) and the DSI (Arcadis, 2019), the following CSM has been prepared.

8.1 Source

Potential sources of contamination at the site and the associated contaminants of potential concern (CoPC) are listed below in Table 8-1.

Table 8-1 Potential On-Site Contaminant Sources

Source	Associated Chemicals	CoPC
Historic and current market gardens and livestock/poultry farming	OCP/OPP, herbicides	OCP/OPP, herbicides
Hazardous building materials in historic and current site structures and in the irrigation lines (conduits)	ACM, lead based paints, electrical components containing PCBs	Asbestos, lead, PCBs
Storage of various materials (such as fuel drums) and consumables in historic and current sheds across the site	TRHs, OCP/OPP, herbicides	TRHs, OCP/OPP, herbicides
Fill materials of unknown origin	Asbestos, ash, slag, construction waste, demolition waste	Heavy metals, TRH, BTEXN, PAH, OCP/OPP, PCBs, phenols and asbestos

** From the results of the groundwater samples collected in October 2019, it was found that some wells exceeded the ANZG (2018) (95% protection for Freshwater) and the NEPM (2013) (GILs for Freshwaters) for some metals. These metals were determined to be of background origin and are not considered a potential contaminant source.*

8.2 Potentially Affected Media

The potentially affected media at the site includes:

- Soil.
- Groundwater.
- Surface water (in the dams).
- Sediment (dams).

8.3 Pathways

Pathways or transport mechanisms by which receptors may be exposed to contamination on and off site include:

- Direct contact with contaminated soil/groundwater.
- Ingestion of dust.
- Inhalation of asbestos.
- Ingestion of abstracted groundwater.

8.4 Receptors

Potential receptors to contamination include:

- Demolition/construction workers.
- Future site users.
- Surrounding residents.
- Environmental receptors (Kemps Creek and South Creek).
- Groundwater (on site and off site).

8.5 Data Gaps

The following areas are identified as having contamination and will require delineation and potentially remediation:

- SO01: Zn above EIL
- SO03: Zn above EIL

Appropriate management will also be required during the proposed development for the following exceedances recorded in dam sediments. Additional sampling may be required once the dams have been dewatered.

- DS01 & DS02: As above ISQG-low
- QA5 (QA/QC of DS02): Pb above ISQG-low
- DS05: NI above ISQG-low

The footprints of the buildings and substation have not been assessed. A validation assessment of building, post demolition could be undertaken as part of a Site Management Plan or a Remediation Action Plan.

Further assessment is required at locations HA08 and HA13 to delineation Zn concentrations.

Seasonal groundwater fluctuations have not been accounted.

The specifics surround site wide waste disposal requirements are presently not known.

8.6 Exposure Assessment

Based on the CSM discussed in Section 8.1 to Section 8.4, the potential for contamination to be present at the site in concentrations which may be harmful to human or ecological receptors is considered to be **Low**. This level of contamination risk can be minimised or removed if precautionary measures are taken. The potentially complete and incomplete pathways are discussed in more detail in the Table 8-2 below.

Table 8-2 Exposure Assessment

Source	Pathway	Receptor	Exposure Assessment	Pathway completeness
Market gardens and livestock/poultry farming	Direct contact	Demolition/construction workers, future site users	Demolition and construction workers developing the site will come into contact with potentially contaminated soil. Workers in service trenches may also encounter groundwater. Depending on the landscaping of the proposed developed on the site, future site workers may be directly exposed to potentially contaminated soil via open grass areas.	**Based on the DSI results presented herein, this pathway is potentially complete.** **Further investigation or remediation is required for the F2 contamination identified at location HA15B.** **An Unexpected Finds Protocol (UFP) Is required during construction works.**
		Surrounding residents	Surrounding residents will not come into direct contact with potentially contaminated soil or groundwater. No groundwater abstraction wells were noted around the site.	**The pathway is incomplete.**
	Ingestion	Demolition and construction workers, surrounding residents, future site user	Demolition and construction workers and surrounding residents have the potential to be exposed to dust during the construction phase of the proposed development. Depending on the landscaping of the proposed developed on the site, future site workers may also be directly exposed to potentially contaminated dust via open grass areas.	**The pathway is potentially complete and could be managed during construction works with a Construction Environmental Management Plan (CEMP) and UFP.**
Hazardous building materials	Direct contact, inhalation of asbestos fibres	Demolition/construction workers	If hazardous building materials are present in the currently existing structures or residual soils, demolition/construction workers may be exposed during demolition works.	**The pathway is potentially complete and may be managed through a CEMP during construction works as well as a HAZMAT Assessment**.
		Surrounding residents, future site user	Surrounding residents will not be allowed access onto the site and therefore will not come into contact with hazardous building materials. Additionally, hazardous materials is to be removed from the site before the	**The pathway is potential complete and may be managed through a**

Source	Pathway	Receptor	Exposure Assessment	Pathway completeness
			construction of the proposed boarding home, therefore future residents will not be exposed. Appropriate management restrictions are to be in place for the removal of asbestos.	**CEMP during construction works or RAP.**
	Ingestion	Demolition/construction workers	Demolition/construction workers may be at risk of ingesting hazardous materials during intrusive site construction works.	**Based on the DSI results presented herein, this pathway is incomplete.**
		Surrounding residents, future site users	These receptors will not come into contact with hazardous building materials during or after construction.	**The pathway is incomplete.**
Storage of various materials (such as fuel drums) and consumables	Direct contact, ingestion	Demolition/construction workers, future site users	Demolition and construction workers developing the site will come into contact with potentially contaminated soil. Additionally, future site workers may be directly exposed to potentially contaminated soil via open grass areas.	**The pathway is potentially complete and may be managed through a CEMP during construction works.**
		Surrounding residents	Surrounding residents will not come into direct contact with potentially contaminated soil or groundwater. No groundwater abstraction wells were noted around the site.	**The pathway is incomplete.**
Fill materials	Direct contact, ingestion	Demolition/construction workers, future site users, surrounding residents	Demolition and construction workers developing the site will come into contact with underlying fill during the construction phase. Depending on the landscaping of the proposed developed on the site, future site workers may be directly exposed to potentially contaminated soil via open grass areas. Surrounding residents have the potential to be exposed to dust during the construction phase.	**Based on the results presented herein, this pathway is incomplete.**
	Inhalation of asbestos fibres	Demolition/construction workers	Demolition/construction workers may be exposed to fragments of asbestos in the fill material during demolition works. If the fill is still present and/or exposed on the site after completion of the proposed development, future site workers may also be exposed via open grassed areas.	**The pathway is potentially complete and may be managed during construction works through an UFP and a CEMP. HAZMAT assessment prior to demolition is recommended.**

Source	Pathway	Receptor	Exposure Assessment	Pathway completeness
		Surrounding residents	Surrounding residents will not come into contact with fill material during or after construction.	**The pathway is incomplete.**
Contaminated groundwater	Direct contact	Demolition/construction workers	Demolition and construction workers developing the site may come into contact with potentially contaminated groundwater during excavation of service trenches.	**The pathway is potentially complete**.
	Ingestion	Future site users, surrounding residents	Future site users and surrounding residents will not come into contact with groundwater during or after construction, as groundwater is not to be extracted on site.	**The pathway is incomplete.**
	Groundwater flow	Environmental receptors (e.g. Kemps Creek and South Creek)	Kemps Creek and South Creek are located down gradient of the site and therefore are potential receptors to contaminated groundwater.	**The pathway is potentially complete.**
		Off-site groundwater users	No licenced groundwater extraction bores were present within a 2000m radius of the site; therefore, it is unlikely that off site receptors will come into contact with potentially contaminated groundwater.	**The pathway is incomplete.**

9 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the report, the following conclusion is provided:

- There was no gross or substantial contamination identified at the site;

  To confirm the suitability of the site from a contamination perspective for the proposed development as an industrial estate, the following will be required:

  - Further investigation or management/remediation of the F2 contamination identified at HA15B;
  - Further investigation or management/remediation of the Zn contamination identified at HA06, HA08, HA13 and HA18;
  - The removal of identified surface ACM on Lot 54, Lot 57 and Lot 58 along with the issuing of a validation report; and
  - Appropriate management of asbestos during building demolition.
  - Trace asbestos fibres were recorded during the PSI at HA13, however concentrations were below the adopted %w/w.
  - Appropriate management of Zn concentrations at SO01 and SO03 which exceeded the adopted EIL indicating a potential ecological risk.
- No sampling was undertaken within building footprints. An assessment of the building footprints is recommended to be undertaken when these locations are accessible.

The following recommendations for the site are made:

- Develop of a RAP for asbestos, Zn and F2 contamination identified, unless risks can be managed via other measures. The RAP may include provision to managing building footprint validation.
- Surface asbestos requires removal by a licenced asbestos removal contractor and a clearance certificate issued by an appropriately qualified occupational hygienist.
  - Arcadis recommends this work is undertaken after the demolition of on site structures which may contain ACM.
- In the event the buildings be demolished appropriate management of inbuild asbestos will be required. It is recommended to have asbestos removed from the buildings prior to demolition. Validation of the build footprints may still be required.
- The site UFP, developed concurrently with this DSI by Arcadis, is to be implemented during works on site. The UFP is to include visual and/or analytical assessment of the materials below the building footprints after demolition.
- Structures on site and waste material is to be assessed as part of a HAZMAT survey and an asbestos register developed for the site to identify current and potential sources of contamination during development works.
- Arcadis assumes that a Construction Environmental Management Plan (CEMP) will be developed for the proposed works at the site. The CEMP is to include the findings of this DSI to appropriately manage the risks identified in the CSM.
- On-site surface water is to be measured after a significant rainfall event and compared to the observations in this DSI, to assess the potential contributions (surface material leaching, groundwater impact, evaporation) to observed water quality for dam de-watering purposes.
- Additional sediment sampling is recommended to be conducted once dams have been dewatering to appropriately characterise the material.

10 INTEGRITY ASSESSMENT

Information for this assessment was collected from a wide range of sources to evaluate the risk of site contamination. The sources included a combination of government bodies that have no knowledge of the current site and private organisations which are not current project stakeholders.

The data obtained from other historical sources and previous investigations has been reviewed and was found to be in general agreement. It is therefore considered that the information provided in this assessment has an acceptable level of accuracy.

Whilst Arcadis uses professional judgement when evaluating information, Arcadis cannot verify third-party information is either correct or complies with standards of practice. Arcadis does not take responsibility for errors or incomplete data from third-party sources.

11 REFERENCES

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APPENDICES

APPENDIX A – FIGURES

Figure 1 – Site overview

Figure 2 – Site layout

Figure 3 – Groundwater contours

Figure 4 – Surface and Ground Water sampling locations

Figure 5 – Test pit and surface soil sampling locations

Figure 6 – Sediment sampling locations

Figure 7 – Hand auger sampling locations

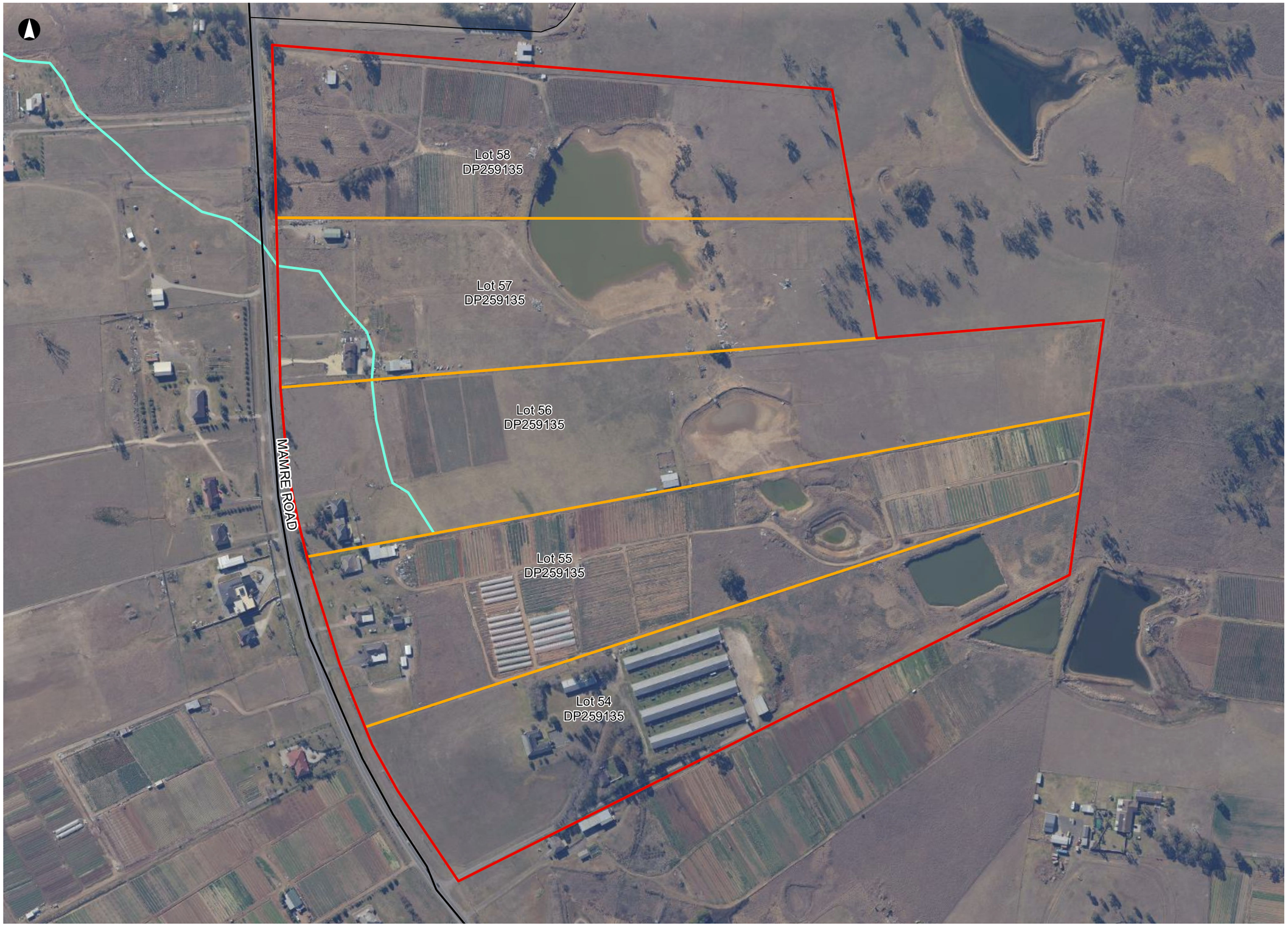
Figure 8 – Soil exceedances

Figure 9 – Waste classification exceedances

Figure 10 – Sediment exceedances

Figure 11 – Positive Asbestos locations

Figure 12 – Water exceedances



Legend

- Site Boundary
- Lot Boundaries
- Creek

1:4,126 at A3

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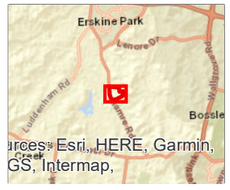

Figure 1 - Site Overview

0 40 80 160 240 320
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Date: 14/02/2020 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Figure 1 - Site Overview.mxd
Created by : Environmental Restoration
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10035157 - Aspect Industrial Estate - Detailed Site Investigation

Legend

- Approximate Extent of Fill
- Elevated Embankment
- Former Chicken Farm Area
- Market Gardens
- Stockpiled Wastes
- Dams
- Creek
- Kemps Creek
- South Creek
- Lot Boundaries
- Site Boundary

1:6,200 at A3

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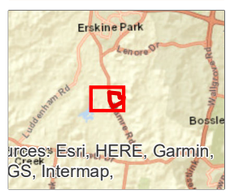

Figure 2a - Site Layout

0 62.5 125 250 375 500
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Date: 17/02/2020 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Figure 2 - Site Layout.mxd
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10035157 - Aspect Industrial Estate - Detailed Site Investigation

Legend

- Approximate Extent of Fill
- Elevated Embankment
- Former Chicken Farm Area
- Market Gardens
- Stockpiled Wastes
- Dams
- Creek
- Lot Boundaries
- Site Boundary

1:4,000 at A3

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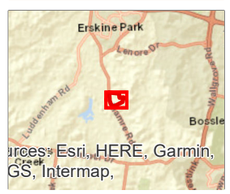

Figure 2a - Site Layout

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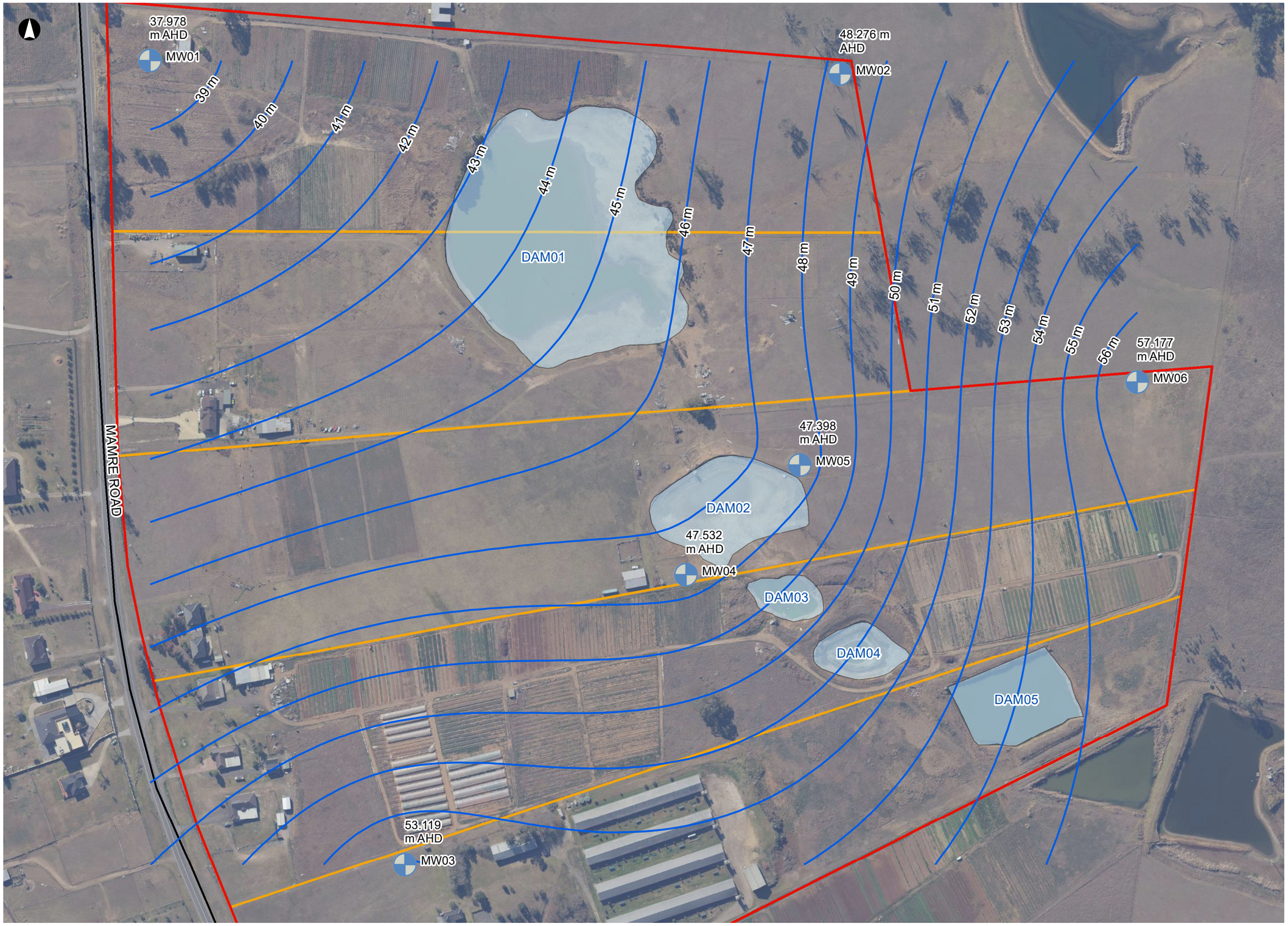

Legend

- Groundwater Wells
- Groundwater Contours (m AHD)
- Dams
- Site Boundary
- Lot Boundaries

1:3,100 at A3

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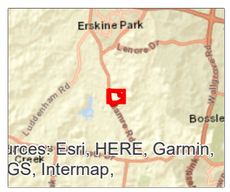

Figure 3 - Groundwater Contours

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Date: 24/10/2019 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Figure 4 - Groundwater Contours.mxd
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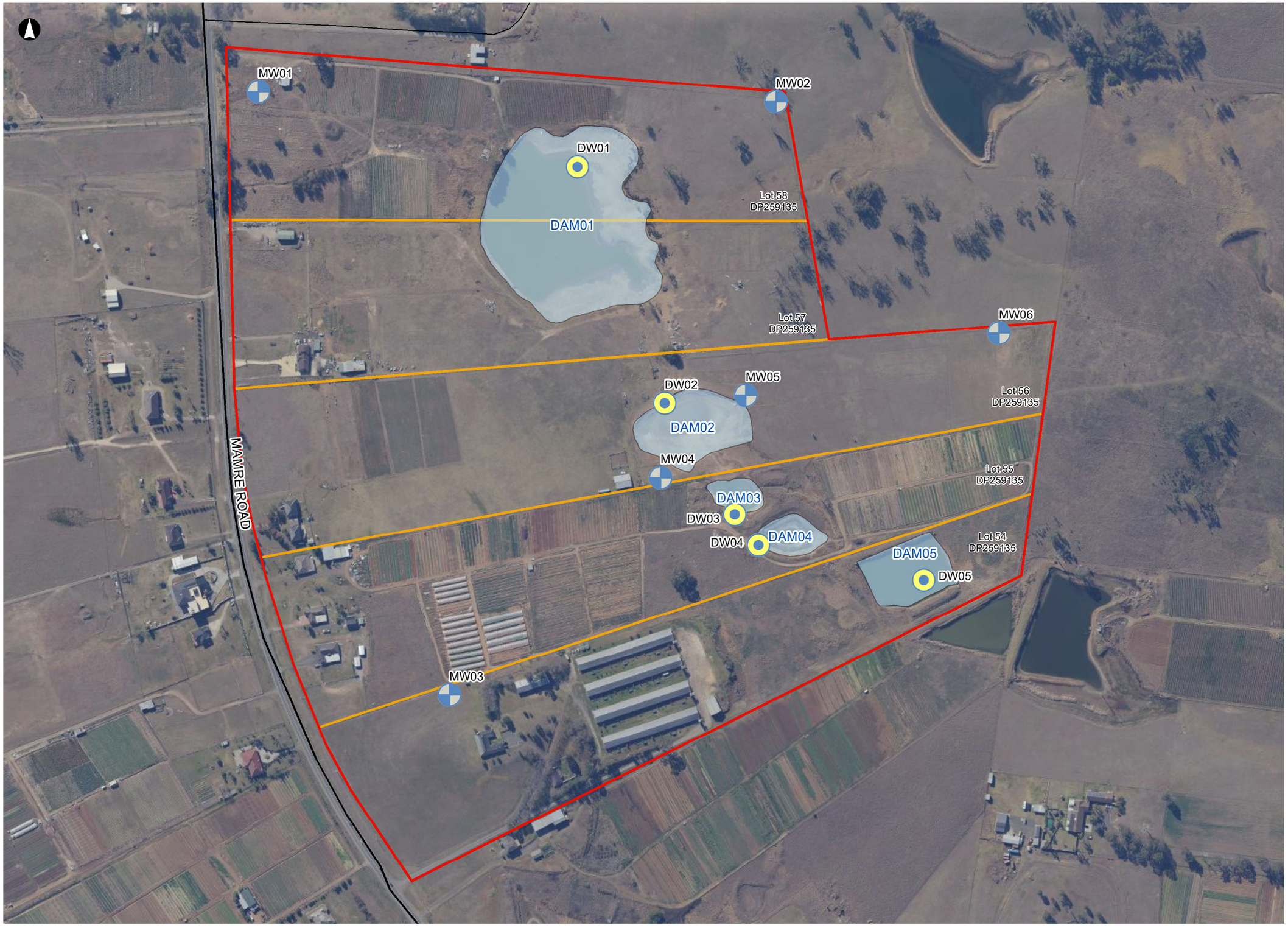

Legend

- Surface Water Samples
- Groundwater Wells
- Dams
- Site Boundary
- Lot Boundaries

1:4,133 at A3

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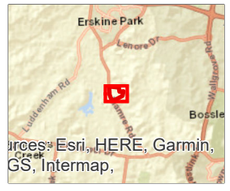

Figure 4 - Surface and Ground water sampling locations

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Date: 24/10/2019 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Figure 3b - Sample Locations - SW and GW.mxd
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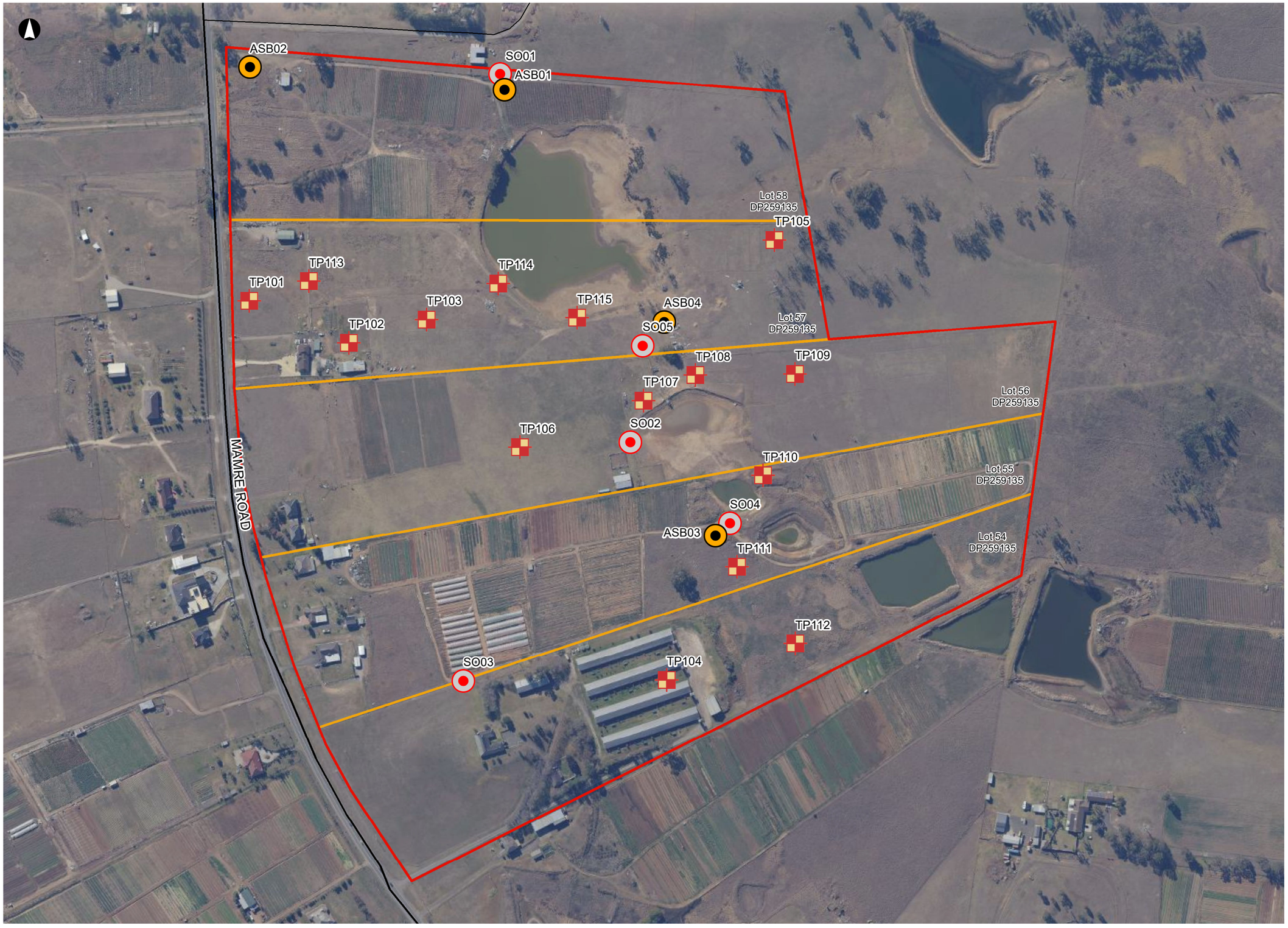

Legend

- PACM Sample
- Testpit Locations
- Soil Samples (Surface)
- Site Boundary
- Lot Boundaries

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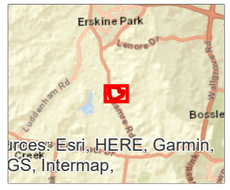

Figure 5 - Test Pits and Surface Soil sampling locations

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Date: 30/10/2019 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Figure 3av2 - Sample Locations - Testpits and Surface Soil and PACM.mxd
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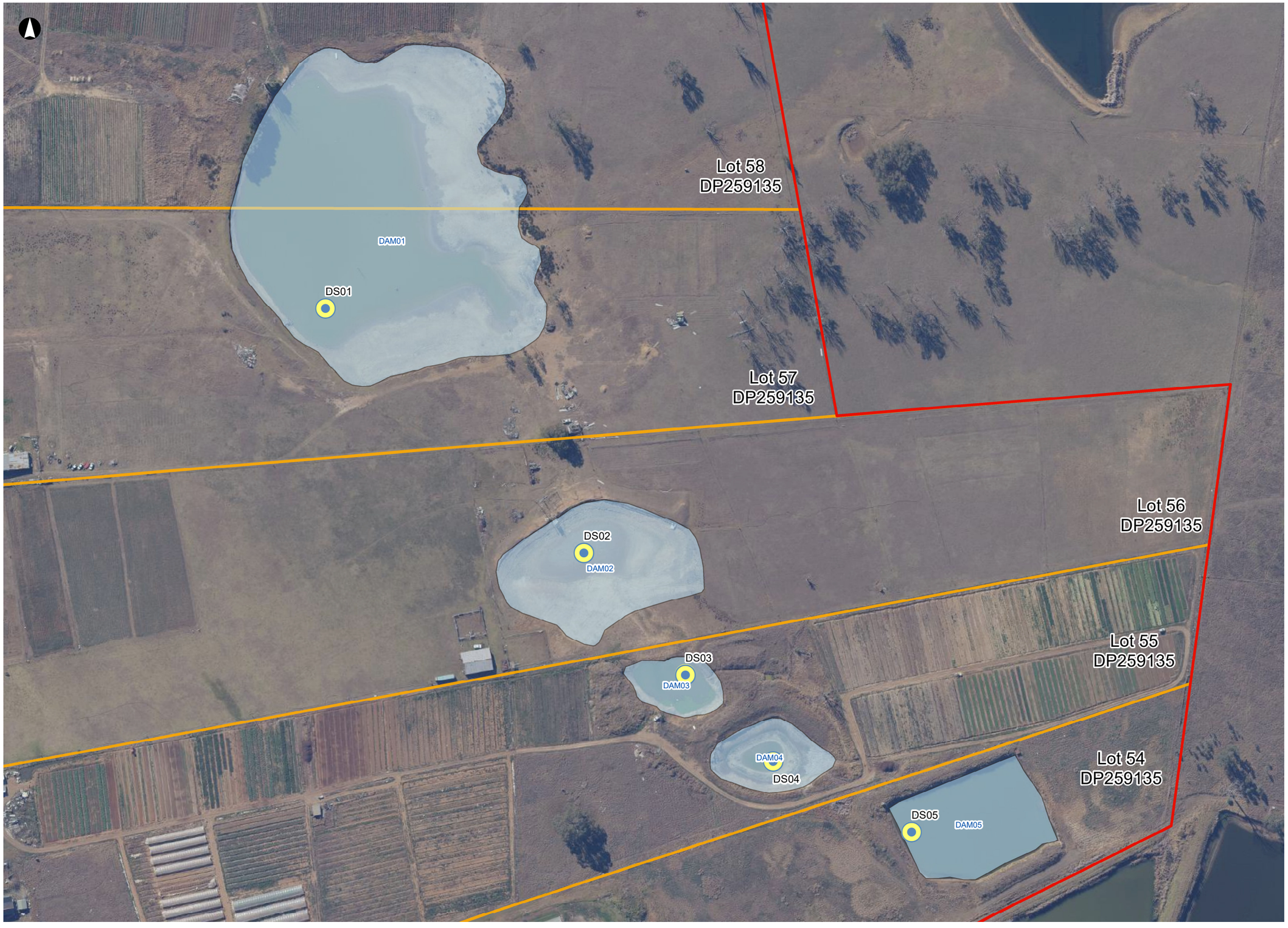

Legend

- Sediment Samples
- Dams
- Lot Boundaries
- Site Boundary

1:2,378 at A3

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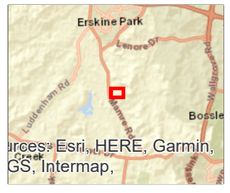

Figure 6 - Sediment Sample Locations

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Date: 2/03/2020 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Second Phase\Fig x - Sediment Locations.mxd
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10035157 - Aspect Industrial Estate - Detailed Site Investigation

Legend

- Hand Auger Locations
- Dams
- Lot Boundaries
- Site Boundary

1:2,300 at A3

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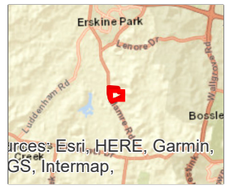

Figure 7 - Hand Auger Locations

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Date: 2/03/2020 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Second Phase\Fig x - Hand Augers.mxd
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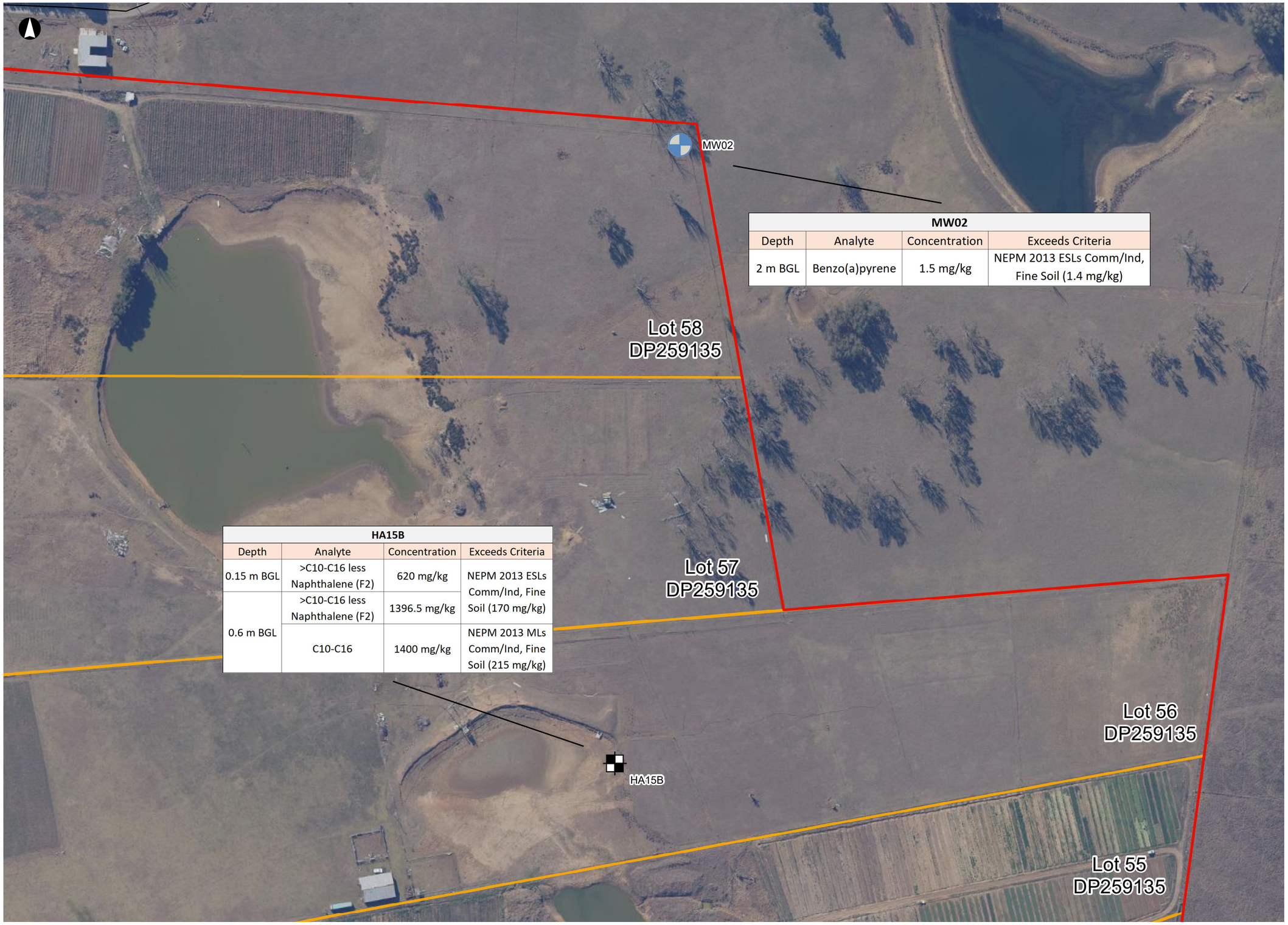

MW02			
Depth	Analyte	Concentration	Exceeds Criteria
2 m BGL	Benzo(a)pyrene	1.5 mg/kg	NEPM 2013 ESLs Comm/Ind, Fine Soil (1.4 mg/kg)

HA15B			
Depth	Analyte	Concentration	Exceeds Criteria
0.15 m BGL	>C10-C16 less Naphthalene (F2)	620 mg/kg	NEPM 2013 ESLs Comm/Ind, Fine Soil (170 mg/kg)
0.6 m BGL	>C10-C16 less Naphthalene (F2)	1396.5 mg/kg	
	C10-C16	1400 mg/kg	NEPM 2013 MLs Comm/Ind, Fine Soil (215 mg/kg)

Legend

- Hand Auger
- Monitoring Well Soil
- Site Boundary
- Lot Boundaries

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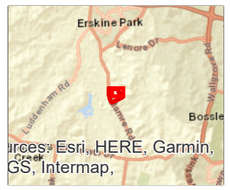

Figure 8 - Soil Criteria Exceedances

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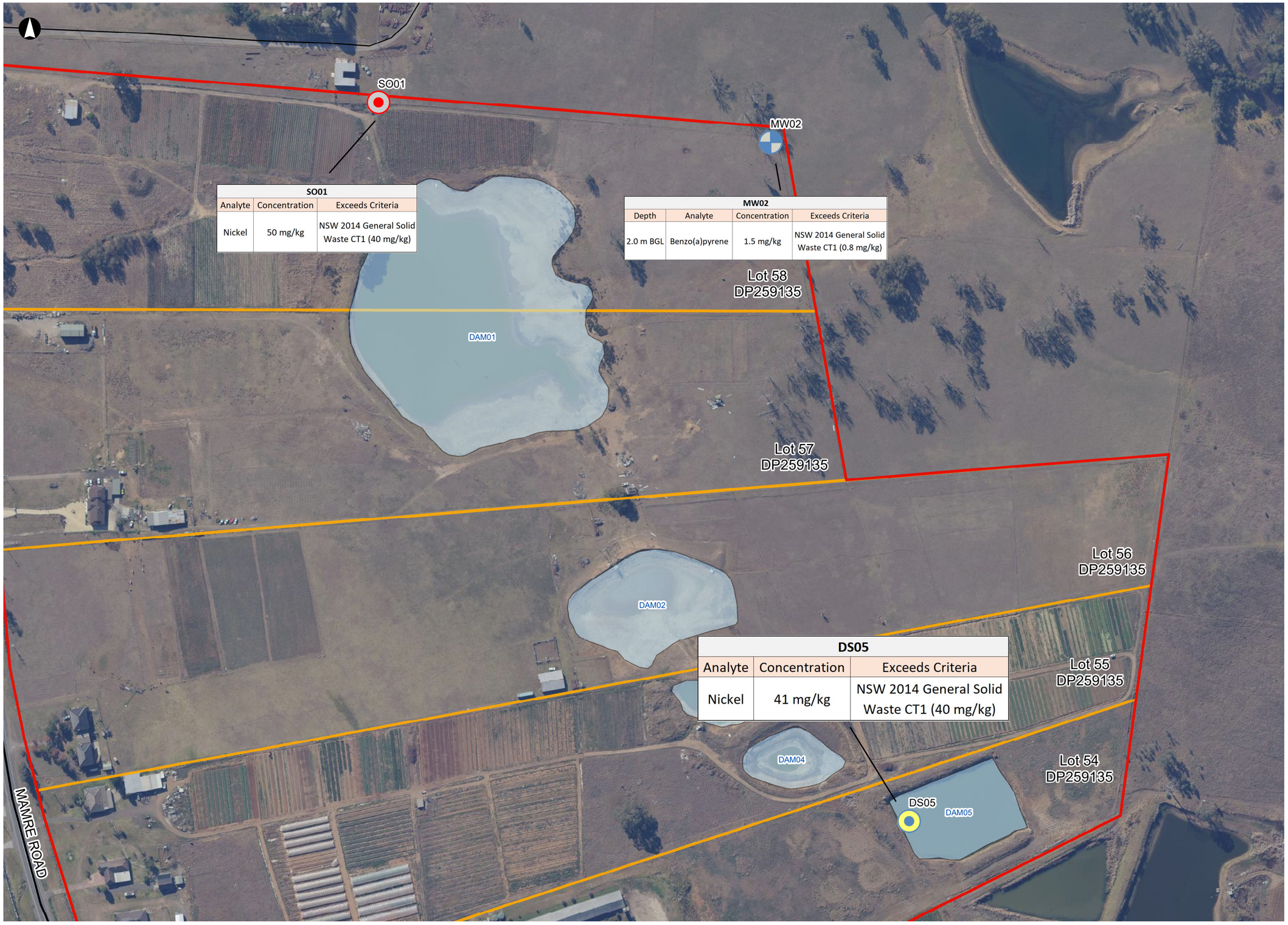
10035157 - Aspect Industrial Estate - Detailed Site Investigation



SO01		
Analyte	Concentration	Exceeds Criteria
Nickel	50 mg/kg	NSW 2014 General Solid Waste CT1 (40 mg/kg)

MW02			
Depth	Analyte	Concentration	Exceeds Criteria
2.0 m BGL	Benzo(a)pyrene	1.5 mg/kg	NSW 2014 General Solid Waste CT1 (0.8 mg/kg)

DS05		
Analyte	Concentration	Exceeds Criteria
Nickel	41 mg/kg	NSW 2014 General Solid Waste CT1 (40 mg/kg)

Legend

- Surface Soil
- Dam Sediment
- Monitoring Well Soil
- Dams
- Lot Boundaries
- Site Boundary

1:2,910 at A3

mirvac

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Coordinate System: GDA 1994 MGA Zone 56
Date issued: March 3, 2020

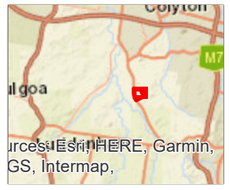
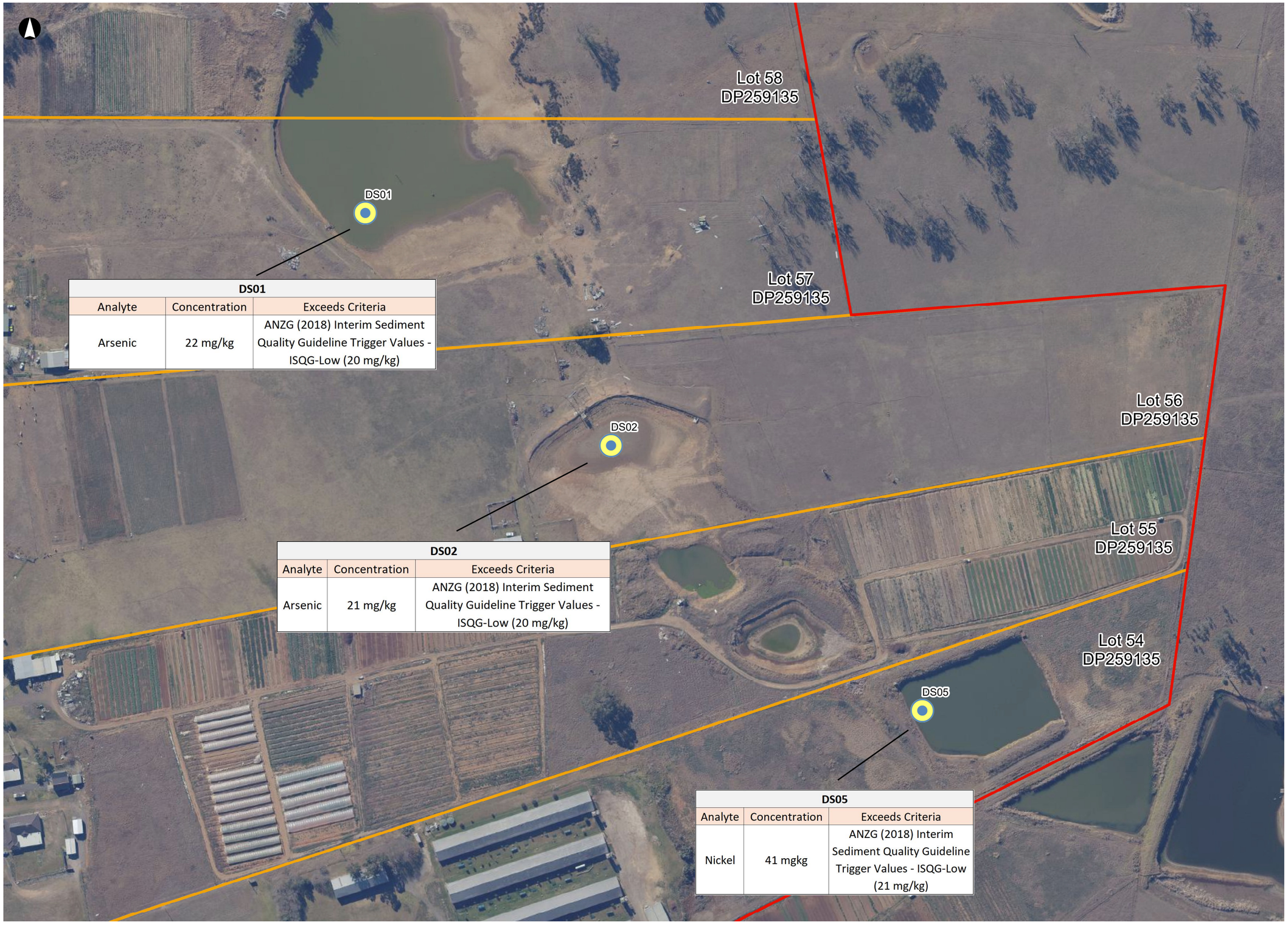


Figure 9 - Waste Classification Exceedances

0 25 50 100 150 200
m

Date: 3/03/2020 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Second Phase\Fig x - Waste Classification Exceedances.mxd
Created by : Environmental Restoration
QA by : Environmental Restoration

10035157 - Aspect Industrial Estate - Detailed Site Investigation



DS01		
Analyte	Concentration	Exceeds Criteria
Arsenic	22 mg/kg	ANZG (2018) Interim Sediment Quality Guideline Trigger Values - ISQG-Low (20 mg/kg)

DS02		
Analyte	Concentration	Exceeds Criteria
Arsenic	21 mg/kg	ANZG (2018) Interim Sediment Quality Guideline Trigger Values - ISQG-Low (20 mg/kg)

DS05		
Analyte	Concentration	Exceeds Criteria
Nickel	41 mgkg	ANZG (2018) Interim Sediment Quality Guideline Trigger Values - ISQG-Low (21 mg/kg)

Legend

- Sediment Sample
- Site Boundary
- Lot Boundaries

1:2,500 at A3

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Coordinate System: GDA 1994 MGA Zone 56
Date issued: March 2, 2020

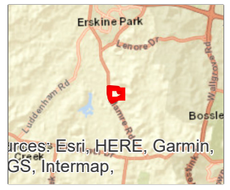
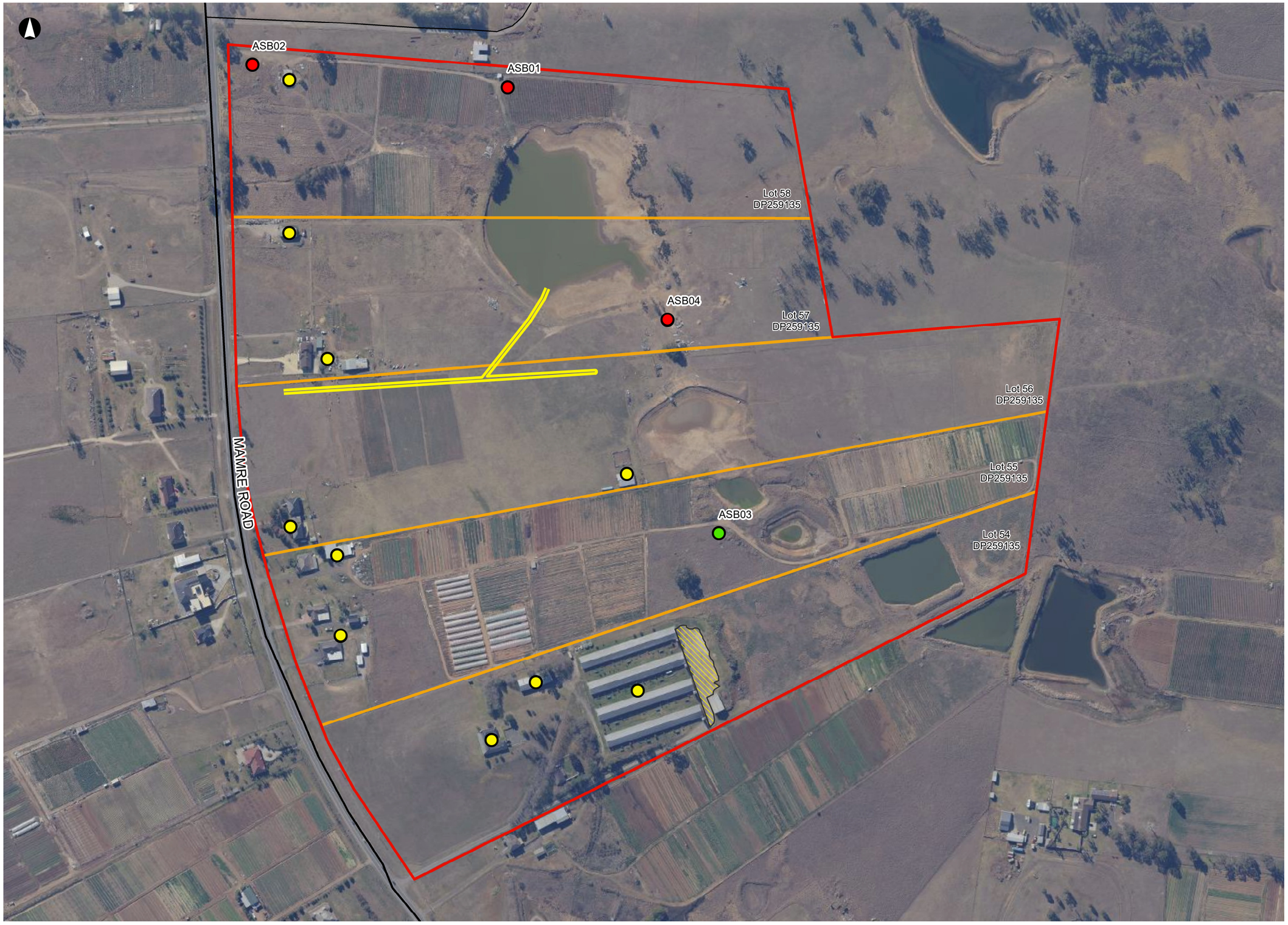


Figure 10 - Sediment Criteria Exceedances

0 25 50 100 150 200
m

Date: 2/03/2020 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Second Phase\Fig x - Sediment Exceedances.mxd
Created by : Environmental Restoration
QA by : Environmental Restoration

10035157 - Aspect Industrial Estate - Detailed Site Investigation



Legend

- Confirmed ACM
- Non-ACM
- PACM within structures
- Crushed Asbestos Sheeting
- Asbestos Pipe
- Lot Boundaries
- Site Boundary

1:4,124 at A3

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Coordinate System: GDA 1994 MGA Zone 56
Date issued: March 4, 2020

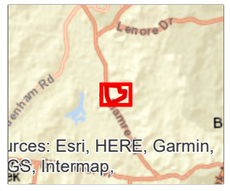

Figure 11 - Positive Asbestos Locations

0 40 80 160 240 320
m

Date: 4/03/2020 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Second Phase\Fig x - Asbestos Location.mxd
Created by : Environmental Restoration
QA by : Environmental Restoration

MW02		
Analyte	Concentration	Exceeds Criteria
Zinc (filtered)	10 µg/L	NEPM (2013) GIL FW (8 µg/L) ANZG (2018) FW 95% (8 µg/L)

MW04		
Analyte	Concentration	Exceeds Criteria
Cadmium (filtered)	0.3 µg/L	NEPM (2013) GIL FW (0.2 µg/L) ANZG (2018) FW 95% (0.2 µg/L)
Zinc (filtered)	9 µg/L	NEPM (2013) GIL FW (8 µg/L) ANZG (2018) FW 95% (8 µg/L)

MW06		
Analyte	Concentration	Exceeds Criteria
Zinc (filtered)	47 µg/L	NEPM (2013) GIL FW (8 µg/L) ANZG (2018) FW 95% (8 µg/L)

MW03		
Analyte	Concentration	Exceeds Criteria
Cadmium (filtered)	0.3 µg/L	NEPM (2013) GIL FW (0.2 µg/L) ANZG (2018) FW 95% (0.2 µg/L)
Copper (filtered)	2 µg/L	NEPM (2013) GIL FW (1.4 µg/L) ANZG (2018) FW 95% (1.4 µg/L)
Zinc (filtered)	12 µg/L	NEPM (2013) GIL FW (8 µg/L) ANZG (2018) FW 95% (8 µg/L)

Legend

- Monitoring Well Locations
- Dams
- Lot Boundaries
- Site Boundary

1:3,050 at A3

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Coordinate System: GDA 1994 MGA Zone 56
Date issued: March 3, 2020

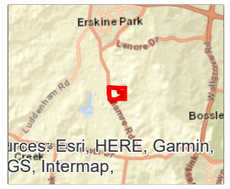


Figure 12 - Water Criteria Exceedances

0 30 60 120 180 240
m

Date: 3/03/2020 Path: H:\AAP_ER_GIS\Projects\10035157\DSI\Second Phase\Figure x - water exceedances.mxd
Created by : Environmental Restoration
QA by : Environmental Restoration

APPENDIX B – FIELD SHEETS

Groundwater sampling field sheet

Surface water sampling field sheet

Asbestos sieving field sheets

RCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information

Date:	16.10.19	Time:	arrive 0630 depart 7.35
Project Name:	Mirvac - Kemps Creek	Project Number:	10035157.1
Site Location:	788 - 840 Mamre Rd	Operator:	M.A
Well ID:	MW01	Weather:	Fine - Misty

Equipment

Water quality equipment description: XSI Pro Plus

Interface probe number: Heron Interface Probe

Purging equipment: (please cirlce)
Bailer type: Plastic Teflon
Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column Depth to Product
~~4.22~~ m (-) 4.220 m (=) 4.837 m _____ (m)

9.057

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
_____ m (x) 1.96 (=) 9.48 L

Water Quality Parameters

Beginning purge time: 0635 Ending purge time: 0715

	Litres	Time	pH	Temp C	Cond µS/cm	DO ppm	Redox mV	Comments
1	~~0.5~~	0645	6.89	16.0	14092	~~2.17~~ 2.13	169.8	Slightly turbid, no sheen, no odour
2	1	0650	6.97	15.2	14046	2.08	159.7	Slight turbidity, no sheen, no odour
3	1.5	0655	6.99	15.4	14038	~~1.49~~ 1.39	153.8	" - less turbid "
3.5	2	0700	6.93	15.4	14048	~~1.55~~ 1.32	152.0	Possible v. faint sheen.
5	3	0705	6.93	15.4	14061	~~1.47~~ 1.25	149.5	
6.5	4	0710	6.93	15.4	14059	~~1.2~~ 1.22	147.2	
7.5	5	0715	6.92	15.5	14069	1.22	147.1	V-mild turbidity, small organic (biogenic) sheen
Stabilisation Criteria			+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

9.48 **Total Well Volume** Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

About 16 L Purged

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information			
Date:	16-10-19	Time:	arrive 7.45 depart
Project Name:	Mirvac - Kemps Creek	Project Number:	10035157.1
Site Location:	788-840 Mamre Rd	Operator:	MA
Well ID:	MW02	Weather:	Cloudy

Equipment

Water quality equipment description: YSI Pro Plus

Interface probe number: Heron Interface

Purging equipment: (please cirlce)
Bailer type: **Plastic** **Teflon**
Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column: 11.795 m (-) 3.249 m (=) 8.546 m

Depth to Product: _____ (m)

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume: _____ m (x) 1.96 (=) 16.75 L

Water Quality Parameters

Beginning purge time: 750 | Ending purge time:

Litres	Time	pH	Temp C	Cond µS/cm	DO ppm	Redox mV	Comments
0.5	750	6.83	16.9	16375	17.7	131.2	Mild turbidity, no sheen, no odour
1.5	755	6.81	17.1	16437	1.20	131.2	" "
3	800	6.81	17.3	16517	1.11	130.9	
4	804	6.81	17.3	16518	1.10	130.2	
5	808	6.81	17.4	16560	1.10	129.8	
6	812	6.81	17.4	16600	1.08	129.8	
7	816	6.81	17.6	16640	1.07	129.6	
8	820	6.81	17.6	16645	1.07	129.6	
9	825	6.81	17.8	16646	1.06	129.6	
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

16.75 **Total Well Volume** Actual amount of water prior to sampling

**pH, temp, cond readings not necessary if well is purged dry*

Did field parameters stabilise? Y N NA

Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

E 295305.116
N 6253444.405
Z 56.3458

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information	
Date: 23.10.19	Time: arrive depart
Project Name:	Project Number: 10035157.1
Site Location:	Operator: M.A
Well ID: MW03	Weather: Fine

Equipment	
Water quality equipment description:	YSI Pro Plus
Interface probe number:	Heron Interface Probe
Purging equipment: (please cirlce) Bailer type:	Plastic Teflon
Pump type:	Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column: 11.100 m (-) 8.310 m (=) 2.79 m

Depth to Product: _____ (m)

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume: _____ m (x) 1.96 (=) 5.47 L

Water Quality Parameters

Beginning purge time: | Ending purge time:

Litres	Time	pH	Temp C	Cond µS/cm	DO ppm	Redox mV	Comments
0.5	1540	6.45	22.1	21520	6.87	182.5	mild turbidity, no sheen, no odour
1	1545	6.67	21.2	21353	7.26	168.6	"
2	1550	6.68	21.1	21265	7.57	166.6	↓
3	1555	6.68	21.1	21266	7.52	166.3	
4	1600	6.68	21.1	21266	7.50	165.8	
5	1605	6.68	21.1	21256	7.48	165.6	
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

5.47 **Total Well Volume** Actual amount of water prior to sampling

**pH, temp, cond readings not necessary if well is purged dry*

Did field parameters stabilise? (Y) N NA — Was the well dry purged? Y (N)

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	(Y)	N	
Was pre-cleaning sampling equipment properly protected from contamination?	(Y)	N	
Was documentation of equipment conducted?	(Y)	N	NA
Were air bubbles present in vials at time of collection?	Y	(N)	NA
Was sample for metals field filtered prior to preservations?	(Y)	N	NA
Duplicate sample collected?	Y	(N)	Duplicate sample ID

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information	
Date:	Time: arrive depart
Project Name:	Project Number:
Site Location:	Operator:
Well ID: MW03	Weather:

Equipment						
Water quality equipment description:						
Interface probe number:						
Purging equipment: (please cirlce)	Bailer type:	**Plastic**	**Teflon**			
	Pump type:	**Peristaltic**	**Submersible**	**Micro-purge**	**Amazon**	**Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column Depth to Product
12.215 m (-) 9.542 m (=) _____ m _____ (m)
*11.243 *9.570

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
_____ m (x) _____ (=) 5.239 L

Water Quality Parameters

Beginning purge time: | Ending purge time:

Litres	Time	pH	Temp C	Cond µS/cm	DO ppm	Redox mV	Comments
							Not Sampled
Stabilisation Criteria		**+/- 0.05**	**+/- 10%**	**+/- 3%**	**+/- 10%**	**+/- 10%**	**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

5.239 **Total Well Volume** Actual amount of water prior to sampling

**pH, temp, cond readings not necessary if well is purged dry*

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N		
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N		
Was documentation of equipment conducted?	Y	N	NA	
Were air bubbles present in vials at time of collection?	Y	N	NA	
Was sample for metals field filtered prior to preservations?	Y	N	NA	
Duplicate sample collected?	Y	N		Duplicate sample ID

Groundwater - well sampling data form.cdr 11/04

Tubing cut off 0.972 after dip. Pre aps.
11.39 − 1.65 = 9.74m bgl
Screen from 9.74 to 6.74
Sand from 9.74 to 6.2
Bentonite from 6.2 to 5.5
m bgl

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information			
Date:	16.10.19	Time: arrive	depart
Project Name:	Mirvac Kemps creek	Project Number:	10035157.1
Site Location:	788-840 Mamre Road	Operator:	M.A
Well ID:	MW04	Weather:	Cloudy

Equipment	
Water quality equipment description:	YSI PSO Plus
Interface probe number:	Heron Interface
Purging equipment: (please cirlce)	Bailer type: Plastic Teflon
	Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Total Well Depth (-) Water level (=) Water Column: 9.045 m (-) 3.636 m (=) 5.409 m

Depth to Product: _____ (m)

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume: _____ m (x) 1.96 (=) 10.60 L

Volume of water in well V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Water Quality Parameters

Beginning purge time: | Ending purge time:

Litres	Time	pH	Temp C	Cond µS/cm	DO ppm	Redox mV	Comments
0.5	10.05	6.40	19.1	1.565	19.7	155.5	low - Moderately turbid, no Sheen, no odour
1	1015	6.43	18.9	1.520	1.36	152.3	" "
2	1020	6.44	19.0	1.587	1.57	149.5	
3	1025	6.44	19.2	1.636	1.58	148.1	" lower turbidity. "
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume (Actual amount of water prior to sampling)
10.60

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA

Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information

Date:	16.10.19	Time:	arrive depart
Project Name:	Mirvac - Kemp Creek	Project Number:	10035157.1
Site Location:	~~10035157.1~~ 788-840 Mamm Rd	Operator:	M.A
Well ID:	MW05	Weather:	Fine

Equipment

Water quality equipment description:	YSI
Interface probe number:	Horiba

Purging equipment: (please circle)
Bailer type: Plastic Teflon
Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column Depth to Product
9.458 m (-) 2.527 m (=) 6. m (m)

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
6.931 m (x) 1.96 (=) 13.58 L

Water Quality Parameters

Beginning purge time: Ending purge time:

Litres	Time	pH	Temp C	Cond µS/cm	DO ppm	Redox mV	Comments
0.5	11.30	6.56	19.6	19918	0.98	161.3	V. Small Sheen, low turbidity no odour
1	11.35	6.55	19.4	19858	0.63	160.3	
2	11.40	6.55	19.3	19795	0.63	158.1	low turb. no sheen, no odour
3	11.45	6.55	19.2	19781	0.63	158.1	
4	11.50	6.55	19.2	19783	0.64	158.0	
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

13.58 **Total Well Volume**
Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information

Date:	16.10.19	Time:	arrive depart
Project Name:	Mirvac - Kemps Creek	Project Number:	10035137.1
Site Location:		Operator:	M.A
Well ID:	MW06	Weather:	Fine

Equipment

Water quality equipment description:

Interface probe number:

Purging equipment: (please cirlce) Bailer type: **Plastic** **Teflon**

Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column Depth to Product
11.390 m (-) 4.946 m (=) 6.444 m _____ (m)

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
_____ m (x) _____ (=) 1263 L

Water Quality Parameters

Beginning purge time: Ending purge time:

Litres	Time	pH	Temp C	Cond µS/cm	DO ppm	Redox mV	Comments
0.5	12.25	7.11	21.1	16634	~~586~~	152.8	Clear, no sheen, no odour
1	12.30	6.93	20.0	16005	~~51.4~~	150.7	Clear, PVC Pipe material?
2	12.35	6.96	20.2	16082	3.19	125.7	"
4	1245	6.95	20.4	16282	3.26	125.6	"
5	1250	6.96	20.3	16288	3.20	125.1	"
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

12.63 **Total Well Volume** Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

QA 1

QA 2

Groundwater - well sampling data form.cdr 11/04

~~11.39 - 1.65 = 6.97~~ ~~9.74 - 3 = 6.4 (top of screen)~~ ~~Sand to 5.4~~ ~~6.9~~ ~~3 mts to~~ 4.95

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information

Date: 27/11/19	Time: arrive 09:20 depart
Project Name: Aspect ind. estate	Project Number: 10035175
Site Location: Lot 58 - 785 Mamre road, kempis Kh.	Operator: JP
Well ID: MW01	Weather: Clear

Equipment

Water quality equipment description: YSI Pro Plus

Interface probe number:

Purging equipment: (please cirlce)
Bailer type: **Plastic** **Teflon**
Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
_____ m (-) _____ m (=) _____ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
_____ m (x) _____ (=) _____ L

Water Quality Parameters

Beginning purge time: 09:30 | Ending purge time:

Litres	Time	pH	Temp C	Cond uS/cm	DO ppm	Redox mV	Comments
0.5	09:31	7.65	24.2	[illegible]	[illegible]	90.0	Ex. turbid. No sheen. No odour.
2	09:36	6.73	21.0	[illegible]	[illegible]	88.8	" " "
5	09:41	6.91	19.5	[illegible]	[illegible]	87.0	" " "
8	09:46	7.30	17.2	807	[illegible]	113.0	Lightly turbid. No odour. No sheen
9.5	09:51	7.18	17.2	17990	3.56	118.2	" " "
11	09:56	7.10	16.7	15003	2.38	127.1	" " "
15	10:01	7.06	16.4	14894	1.70	129.4	" " "
							Sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information

Date: 27/11/19	Time: arrive 10:20 depart
Project Name: Aspect Industrial Estate	Project Number: 60035152
Site Location: Lot 58, 785 Manse road.	Operator: JP
Well ID: MW02	Weather: clear

Equipment

Water quality equipment description: YSI Pro. Plus

Interface probe number:

Purging equipment: (please cirlce)
Bailer type: **Plastic** **Teflon**
Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
_____ m (-) _____ m (=) _____ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
_____ m (x) _____ (=) _____ L

Water Quality Parameters

Beginning purge time: 10:28 Ending purge time:

Litres	Time	pH	Temp C	Cond uS/cm	DO ppm	Redox mV	Comments
0.2	10:31	6.89	19.7	17043	1.07	137.4	Ex. turbid. No odour. No sheen. Brown fluid.
2	10:38	6.81	19.2	17197	0.64	137.0	" " "
8	10:44	6.69	19.2	16259	0.32	137.5	Mod turbid. No odour. No sheen. Brown fluid.
12	10:52	6.64	19.2	17202	0.12	137.4	" " "
15	10:57	6.62	19.2	17094	0.13	137.2	" " "
							sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID QA3

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information

Date: 28/11/19	Time: arrive 12:10 depart
Project Name: Aspect Industrial Estate	Project Number: 10035157
Site Location: Lot 54, Manse rd. Kemps creek	Operator: JP
Well ID: MW03	Weather: clear – Hot

Equipment

Water quality equipment description: YSI professional plus

Interface probe number:

Purging equipment: (please cirlce)
Bailer type: **Plastic** **Teflon**
Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
_____ m (-) _____ m (=) _____ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
_____ m (x) _____ (=) _____ L

Water Quality Parameters

Beginning purge time: | Ending purge time:

Litres	Time	pH	Temp C	Cond mS/cm	DO ppm	Redox mV	Comments
0.2	13:16	6.91	22.1	22346	0.35	22.6	Ex turbid. No odour. No sheen.
3	13:25	6.85	23.0	22445	0.72	57.6	Lightly turbid. No odour. No sheen.
7	13:35	6.69	23.8	22710	2.24	93.4	" " "
8.5	13:40	6.67	24.7	23208	2.08	102.3	" " "
10	13:49	6.86	25.7	23334	2.25	115.1	" " "
11	13:58	6.64	27.6	24588	2.22	126.1	" " "
							Sampled
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

**pH, temp, cond readings not necessary if well is purged dry*

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information

Date: 28/11/17	Time: arrive 08:55 depart
Project Name: Aspect Industrial Estate	Project Number: 10035157
Site Location: Lot 56 Marine road, Kemps Creek	Operator: TP
Well ID: MW04	Weather: clear.

Equipment

Water quality equipment description: YSI Professional pump

Interface probe number:

Purging equipment: (please cirlce)
Bailer type: Plastic Teflon
Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
_____ m (-) _____ m (=) _____ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
_____ m (x) _____ (=) _____ L

Water Quality Parameters

Beginning purge time: Ending purge time:

Litres	Time	pH	Temp °C	Cond µS/cm	DO ppm	Redox mV	Comments
0.1	09:10	7.23	18.6	19494	0.34	130.4	Ex. turbid. No odour. No sheen.
2	09:16	6.80	19.3	18128	0.27	130.4	Lightly turbid. No odour. No sheen.
5	09:21	6.63	19.6	18781	0.18	130.8	" " "
7.5	09:28	6.53	19.5	19196	0.21	131.7	" " "
11	09:36	6.50	19.5	18962	0.27	132.1	" " "
17	09:45	6.47	19.5	18947	0.30	131.9	" " "
							Sampled.
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information

Date: 27/11/19	Time: arrive 14:20 depart
Project Name: Appleyard Industrial Estate	Project Number: 10035157
Site Location:	Operator: JP
Well ID: MW05	Weather: Clear

Equipment

Water quality equipment description: YSI Professional Plus

Interface probe number:

Purging equipment: (please cirlce)
Bailer type: **Plastic** **Teflon**
Pump type: **Peristaltic** **Submersible** **Micro-purge** **Amazon** **Other:**

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
_____ m (-) _____ m (=) _____ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
_____ m (x) _____ (=) _____ L

Water Quality Parameters

Beginning purge time: 1425 Ending purge time:

Litres	Time	pH	Temp °C	Cond µS/cm	DO ppm	Redox mV	Comments
0.5	1427	6.65	20.1	20292	0.16	134.1	Ex turbid. No odour. No sheen.
1.5	14:34	6.68	20.0	20406	0.12	134.8	Lightly turbid. No odour. No sheen
7	14:43	6.69	19.8	20315	0.25	135.4	" " "
~~12~~	~~14:49~~	~~[illegible]~~	~~19.8~~	~~377.2~~	~~2.20~~	~~136.4~~	~~" " "~~
14	14:54	6.73	19.8	20972	0.18	136.5	" " "
							Sampled.
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	**Example Comments:** clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

ARCADIS Design & Consultancy for natural and built assets — Groundwater Monitoring Field Sheet

Job Information

Date: 28/11/19		Time: arrive 07:30	depart 08:40
Project Name: Aspect Industrial Estate		Project Number: 10035157	
Site Location: Lot 56, Manna rd. Hemp creek		Operator: JP	
Well ID: MW06		Weather: clear	

Equipment

Water quality equipment description: YSI Professional Plus

Interface probe number:

Purging equipment: (please cirlce)
Bailer type: Plastic Teflon
Pump type: Peristaltic Submersible Micro-purge Amazon Other:

Well Gauging and Purge Volume Calculations

Casing Diameter	25mm	50mm	100mm	125mm	150mm	200mm	250mm	300mm
Conversion Factor (volume in factor L/m)	0.98	1.96	7.85	31.4	49.1	70.7	125.7	196.3

Volume of water in well / V = Pr x r x h
V = volume in litres
P = 3.14159
r = radius in cm
h = height of water column in cm

Total Well Depth (-) Water level (=) Water Column
_____ m (-) _____ m (=) _____ m

Water Column (x) Conversion Factor (=) Litres per 1 Well Volume
_____ m (x) _____ (=) _____ L

Water Quality Parameters

Beginning purge time: 07:52 Ending purge time:

Litres	Time	pH	Temp C	Cond µS/cm	DO ppm	Redox mV	Comments
0.2	07:55	7.21	19.1	16138	0.68	140.7	clear fluid. No odour. No sheen
2	08:00	7.05	19.1	18182	0.68	139.0	" " "
4	08:06	6.97	19.1	16132	0.63	134.3	" " "
6	08:11	6.94	19.1	16005	0.51	133.1	" " "
10	08:16	6.91	19.2	16164	0.45	131.9	" " "
14	08:21	6.90	19.2	14520	0.48	131.2	" " "
18	08:26	6.90	19.1	16160	0.45	130.5	" " "
							sampled.
Stabilisation Criteria		+/- 0.05	+/- 10%	+/- 3%	+/- 10%	+/- 10%	Example Comments: clear / slightly cloudy / turbid / very turbid / no odour / slight odour / odour / strong odour

Total Well Volume
Actual amount of water prior to sampling

*pH, temp, cond readings not necessary if well is purged dry

Did field parameters stabilise? Y N NA Was the well dry purged? Y N

Field QC Checks

Was pre-cleaning sampling equipment used for these samples?	Y	N	
Was pre-cleaning sampling equipment properly protected from contamination?	Y	N	
Was documentation of equipment conducted?	Y	N	NA
Were air bubbles present in vials at time of collection?	Y	N	NA
Was sample for metals field filtered prior to preservations?	Y	N	NA
Duplicate sample collected?	Y	N	Duplicate sample ID

SURFACE WATER FIELD RECORD SHEET

ARCADIS Design & Consultancy for natural and built assets

PROJECT: 10035157.1

JOB No: Minvac - Kamps Creek

LOCATION: Kamps Creek

DATE: 16.10.19

OPERATOR: M.A

SAMPLE	TIME	FLOW CONDITIONS	pH	EC	DO	Redox	Temp	Turbidity	COMMENTS
DW01	915	Stagnant	8.34	1785	6.31	102.9	20.8	low	low level, mild turbidity
DW02	1054	Stagnant	9.19	1498	13.56	88.3	24.3	low	clear, low algae
DW03	1409	Stagnant	9.41	1544	18.09	84.0	24.6	Mod.	Algal growth, bubbles in water, sulfur smell
DW04	1480		8.13	1313	7.03	102.6	22.3	low	Reeds/emergents, no algae, clear
DW05	1558	Stagnant	7.14	2656	0.94	121.3	24.8	low	no emergents / life, no algae, bare soil

Notes:

WA Sampling Method

ARCADIS Design & Consultancy for natural and built assets

PROJECT :	Minvac - Kemps Creek
JOB No:	10035137.1
LOCATION :	788-840 Moore Rd
DATE :	9/10/19
OPERATOR :	M.A
Page: of	1-2

Sample ID	Depth	Weight of Bulk Kg	PACM Observed (Y/N)	Weight of PACM	Description
TP101	0.1	12.4	N	—	Top soil - silty clay w/roots
TP113	0.1	13.5	N	—	" "
TP102	0.1	14.56	N	—	Top soil - silty clay w. Rootlets
TP103	0.1	13.88	N	—	" "
TP114	0.1	15.16	N	—	Hard compacted clay Indurated, clumped
TP114	1.5	11.16	N	—	Confirmation @ base of fill / start of natural - nothing observed
TP115	0.1	10.87	N	—	clean fill
TP105	0.1	13.66	N	—	clean, natural fill
TP109	0.1	14.15	N	—	Moist, dark clayey fill

WA Sampling Method

ARCADIS Design & Consultancy for natural and built assets

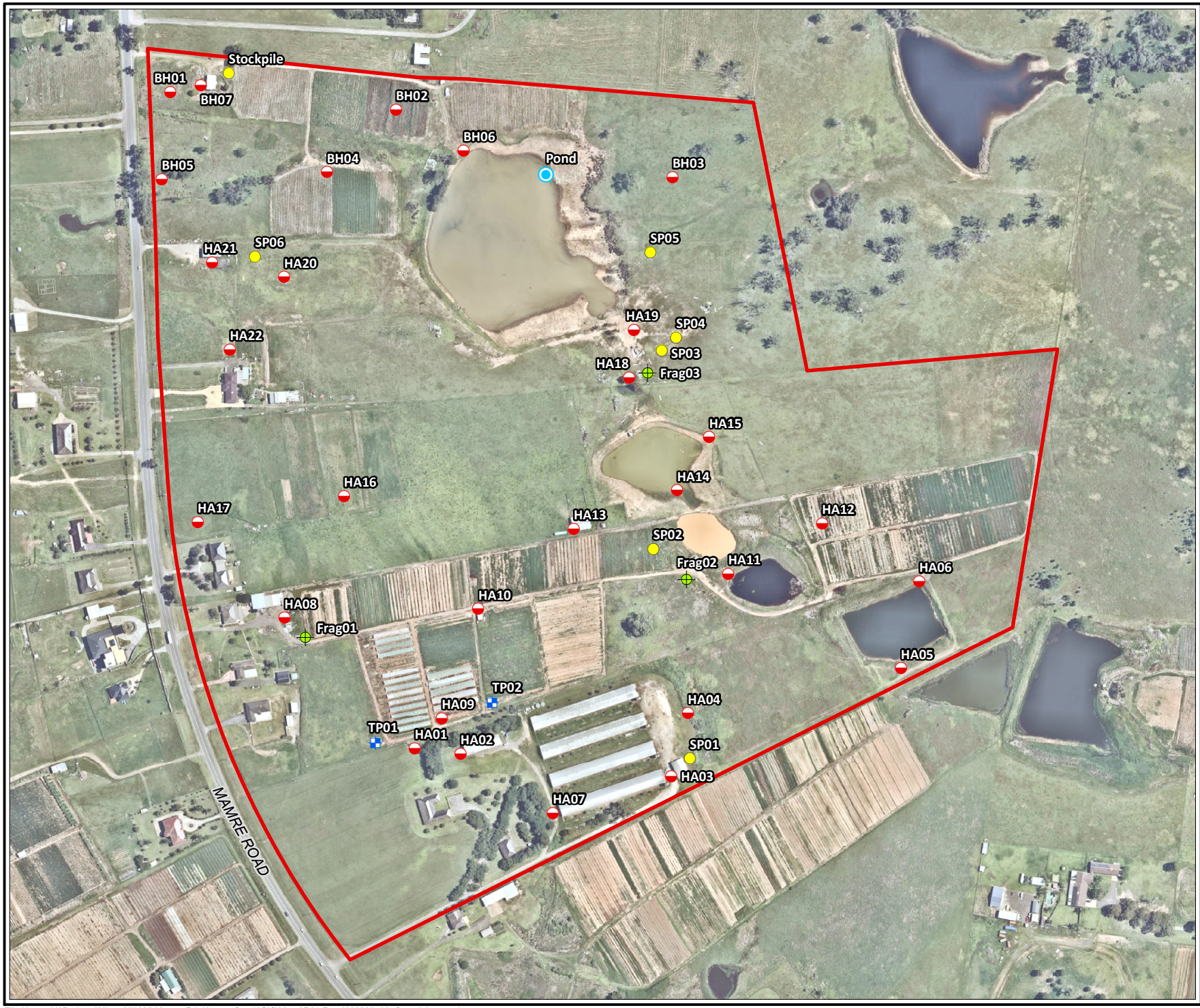
PROJECT :	
JOB No:	10035137.1
LOCATION :	
DATE :	9.12.19
OPERATOR :	
Page: of	2-2

Sample ID	Depth	Weight of Bulk	PACM Observed (Y/N)	Weight of PACM	Description
TP108	0.1	10.97	N	—	Natural
TP107	0.1	12-36	N	—	Natural
TP106	0.1	11.47	N	—	Natural
TP111	0.1	11.38	N	—	Natural
TP110	0.1	12-26	N	—	Re-worked Fill
TP112	0.1	11.18	N	—	Natural
TP104	0.1	14.27	N	—	Concrete fill

APPENDIX C – PSI RESULTS AND FIGURES

PSI (JBS&G, 2019) Sampling locations figure

PSI (JBS&G, 2019) Tabulated laboratory results



Legend:

Approximate Site Boundary

Sample Locations

- Hand Auger Sample
- Materials Sample
- Stockpile Sample
- Testpit Sample
- Surface Water Sample

JBS&G

Job No: 55607	
Client: Mirvac	
Version: R01 Rev A	Date 30/01/2019
Drawn By: AV	Checked By: CK
Scale 1:5,200	

0 60 120
metres

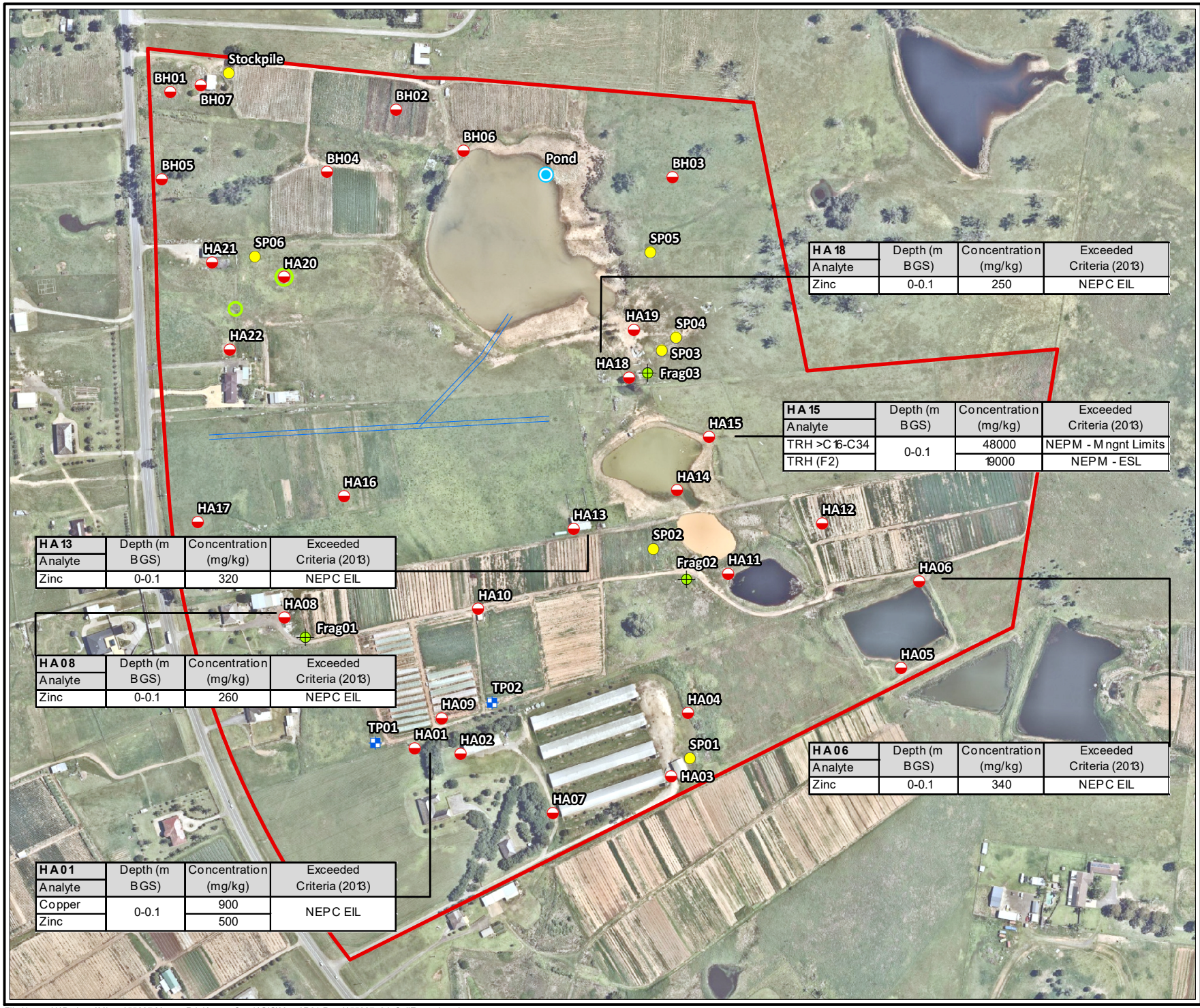
Coord. Sys. GDA 1994 MGA Zone 56

Lot 54-58 DP 259135
Kemps Creek, NSW

SAMPLE LOCATIONS

FIGURE 3

File Name: N:\Projects\Mirvac\55607 Mamre Rd, Kemps Creek\GIS\Maps\R01 Rev A\55607_03_SampleLoc.mxd
Reference: Nearmap - nearmap.com.au - Imagery 29-12-2018



HA18	Depth (m BGS)	Concentration (mg/kg)	Exceeded Criteria (2013)
Analyte			
Zinc	0-0.1	250	NEPC EIL

HA15	Depth (m BGS)	Concentration (mg/kg)	Exceeded Criteria (2013)
Analyte			
TRH >C16-C34	0-0.1	48000	NEPM - Mngnt Limits
TRH (F2)		19000	NEPM - ESL

HA13	Depth (m BGS)	Concentration (mg/kg)	Exceeded Criteria (2013)
Analyte			
Zinc	0-0.1	320	NEPC EIL

HA08	Depth (m BGS)	Concentration (mg/kg)	Exceeded Criteria (2013)
Analyte			
Zinc	0-0.1	260	NEPC EIL

HA06	Depth (m BGS)	Concentration (mg/kg)	Exceeded Criteria (2013)
Analyte			
Zinc	0-0.1	340	NEPC EIL

HA01	Depth (m BGS)	Concentration (mg/kg)	Exceeded Criteria (2013)
Analyte			
Copper	0-0.1	900	NEPC EIL
Zinc		500	

Legend:

- Approximate Site Boundary
- ACM Fragment
- ACM Pipe

Sample Locations

- Hand Auger Sample
- Materials Sample
- Stockpile Sample
- Testpit Sample
- Surface Water Sample

JBS&G

Job No: 55607

Client: Mirvac

Version: R01 Rev A | Date 30/01/2019

Drawn By: AV | Checked By: CK

Scale 1:5,200

0 60 120
metres

Coord. Sys. GDA 1994 MGA Zone 56

Lot 54-58 DP 259135
Kemps Creek, NSW

GUIDELINES EXCEEDANCES – SOIL

FIGURE 4

File Name: N:\Projects\Mirvac\55607 Mamre Rd, Kemps Creek\GIS\Maps\R01 Rev A\55607_04_SoilExceed.mxd
Reference: Nearmap - nearmap.com.au - Imagery 29-12-2018

Table A: Soil Analytical Data
Project Number: 55607
Project Name: Mamre Road, Kemps Creek

Field_ID	Sampled_Date-Time	Lab_Report_Number	Metals & Metalloids: Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	TPHs (NEPC 1999): C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (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
EQL			2	0.4	1	1	1	0.1	1	1	20	20	50	50	50
NEPC 2013 EIL, EILs Aged Sediment			160			108	1961		60	215					
NEPM 2013 ESL Commercial and Industrial, Fine Soil															
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Commercial/Industrial - HSL D															
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL															
NEPM 2013 Mgnt Limits - Commercial and Industrial, Fine															
NEPM 2013 Soil HIL D			3000	900	3600	240000	1500	730	6000	400000					
NEPM 2013 Soil HSL D for Vapour Intrusion - Clay 0 to <1m															
FRAG-01	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG-03	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01 0-0.1	30-Nov-18	631102	<2	1.1	36	900	270	<0.1	6.3	500	<20	22	75	78	175
HA02 0-0.1	30-Nov-18	631102	7.3	1.5	30	54	52	<0.1	15	120	<20	<20	130	95	225
HA03 0-0.1	30-Nov-18	631102	3.7	<0.4	30	70	12	<0.1	44	150	<20	<200	1100	1800	2900
HA04 0.2-0.3	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-
HA04 0-0.1	30-Nov-18	631102	8.3	<0.4	19	30	21	<0.1	9.7	85	<20	40	<50	<50	<50
HA05 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50
HA06 0-0.1	30-Nov-18	631102	8.4	<0.4	19	47	34	<0.1	20	340	-	-	-	-	-
HA07 0-0.1	30-Nov-18	631102	4	<0.4	18	34	10	<0.1	11	94	-	-	-	-	-
HA08 0-0.1	30-Nov-18	631102	8.2	<0.4	18	73	55	<0.1	15	150	<20	<200	<500	<500	<500
QA01	30-Nov-18	631102	14	<0.4	29	51	34	<0.1	23	260	<20	<20	65	51	116
QC01	30-Nov-18	207152	10	<0.4	18	45	33	<0.1	13	150	<25	<50	<100	300	-
HA09 0-0.1	30-Nov-18	631102	11	<0.4	21	27	23	<0.1	10	59	<20	<20	<50	<50	<50
HA10 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	<20	23	59	64	146
HA11 0-0.1	30-Nov-18	631102	9.6	<0.4	17	22	21	<0.1	8.9	35	-	-	-	-	-
HA12 0-0.1	30-Nov-18	631102	12	<0.4	20	27	30	<0.1	10	45	-	-	-	-	-
HA13 0-0.1	30-Nov-18	631102	13	<0.4	24	38	30	<0.1	14	320	<20	<20	<50	<50	<50
HA14 0-0.1	30-Nov-18	631102	5.5	<0.4	16	16	15	<0.1	7.1	16	-	-	-	-	-
HA15 0-0.1	30-Nov-18	631102	11	<0.4	32	17	36	<0.1	10	140	<200	8700	53,000	7000	68,700
HA16 0-0.1	30-Nov-18	631102	11	<0.4	27	16	29	<0.1	8.2	37	<20	28	65	69	162
HA17 0-0.1	30-Nov-18	631102	9.5	<0.4	26	28	32	<0.1	13	66	-	-	-	-	-
HA18 0-0.1	30-Nov-18	631102	6.6	<0.4	14	28	22	<0.1	17	250	<20	<20	59	57	116
HA19 0-0.1	30-Nov-18	631102	10	<0.4	16	30	22	<0.1	19	67	-	-	-	-	-
HA20 0-0.1	30-Nov-18	631102	13	<0.4	16	21	36	<0.1	10	63	<20	20	<50	<50	<50
QA02	30-Nov-18	631102	11	<0.4	14	21	32	<0.1	9.6	63	<20	<20	55	73	128
QC02	30-Nov-18	207152	8	<0.4	11	16	24	<0.1	7	44	<25	<50	<100	<100	-
HA21 0-0.1	30-Nov-18	631102	11	<0.4	18	34	23	<0.1	12	62	<20	21	270	450	741
HA22 0-0.1	30-Nov-18	631102	8	<0.4	23	28	38	<0.1	13	51	<20	<20	<50	<50	<50
SP01	30-Nov-18	631102	7.3	<0.4	19	110	33	<0.1	29	200	<20	25	50	<50	75
SP03	30-Nov-18	631102	8.4	<0.4	22	23	26	0.1	15	96	<20	<20	<50	<50	<50
TP01 0.5-0.6	03-Dec-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01 0-0.1	03-Dec-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01 3-3.1	03-Dec-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02 0-0.1	03-Dec-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02 1-1.1	03-Dec-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02	16/01/2019	636089	9.6	<0.4	24	25	20	<0.1	12	35	-	-	-	-	-
BH04	16/01/2019	636089	6	<0.4	20	23	15	<0.1	11	34	-	-	-	-	-
BH06	16/01/2019	636089	8.6	<0.4	25	14	25	<0.1	8.6	27	<20	<20	<50	<50	<50
BH07	16/01/2019	636089	8	<0.4	26	16	16	<0.1	8.4	23	<20	<20	<50	<50	<50
STOCKPILE	16/01/2019	636089	<2	<0.4	<5	62	<5	<0.1	7.2	520	<40	<20	240	160	400

Field_ID	TRHs (NEPC 2013): >C10-C16 Fraction	>C16-C34 Fraction	>C34-C40 Fraction	>C10-C40 Fraction (Total)	>C10-C16 less Naphthalene (F2)	C6-C10 Fraction	C6-C10 less BTEX (F1)	BTEXN: Benzene	Ethylbenzene	Toluene	Xylene (o)	Xylene (m & p)	Xylene (Total)	Naphthalene
	mg/kg	mg/kg	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	50	100	100	50	50	20	20	0.1	0.1	0.1	0.1	0.2	0.3	0.1
NEPC 2013 EIL, EILs Aged Sediment														170
NEPM 2013 ESL Commercial and Industrial, Fine Soil		2500	6600		170		215	95	185	135			95	
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Commercial/Industrial - HSL D														
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL														
NEPM 2013 Mgnt Limits - Commercial and Industrial, Fine	1000	5000	10000			800								
NEPM 2013 Soil HIL D														
NEPM 2013 Soil HSL D for Vapour Intrusion - Clay 0 to <1m					NL		310	4	NL	NL			NL	NL
FRAG-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01 0-0.1	<50	130	<100	130	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA02 0-0.1	<50	190	<100	190	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA03 0-0.1	<500	2400	<1000	2400	<500	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA04 0.2-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA04 0-0.1	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA05 0-0.1	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA06 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA07 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
HA08 0-0.1	<500	<1000	<1000	<100	<500	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA01	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC01	<50	320	310	630	<50	<25	<25	<0.2	<1	<0.5	<1	<2	<1	<0.1
HA09 0-0.1	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA10 0-0.1	<50	110	<100	110	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA11 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
HA12 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
HA13 0-0.1	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA14 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
HA15 0-0.1	19,000	48,000	<10,000	67,000	19,000	<200	<200	<0.5	<0.5	<0.5	<0.5	<1	<1.5	1.4 - 37
HA16 0-0.1	<50	120	<100	120	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA17 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18 0-0.1	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA19 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
HA20 0-0.1	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QA02	<50	100	<100	100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC02	<50	<100	<100	<50	<50	<25	<25	<0.2	<1	<0.5	<1	<2	<1	<0.1
HA21 0-0.1	<50	580	440	1020	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
HA22 0-0.1	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SP01	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SP03	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
TP01 0.5-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01 3-3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
TP02 1-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
BH04	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
BH06	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
BH07	<50	<100	<100	<100	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
STOCKPILE	<50	330	<100	330	<50	<40	<40	<0.2	<0.2	<0.2	<0.2	<0.4	<0.6	<0.5

Field_ID	Polycyclic Aromatic Hydrocarbons: Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Carcinogenic PAHs as B(a)P TEQ	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	PAHs (Total)	Pyrene	Total Positive PAHs
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.05	0.5	0.5	0.5	0.5	0.1	0.5	0.1	0.1		0.1	0.1	0.1	0.1	0.5	0.1	
NEPC 2013 EIL, EILs Aged Sediment																					
NEPM 2013 ESL Commercial and Industrial, Fine Soil					1.4																
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Commercial/Industrial - HSL D																					
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL																					
NEPM 2013 Mgnt Limits - Commercial and Industrial, Fine																					
NEPM 2013 Soil HIL D						40	40	40						40					4000		
NEPM 2013 Soil HSL D for Vapour Intrusion - Clay 0 to <1m																					
FRAG-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG-03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01 0-0.1	<5	<5	<5	<5	<5	<0.5	6.1	12	<5	<5	<5	<5	<5	<12.1	<5	<5	<5	12	38	26	-
HA02 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA03 0-0.1	<5	<5	<5	<5	<5	<0.5	6.1	12	<5	<5	<5	<5	<5	<12.1	<5	<5	<5	<5	<5	<5	-
HA04 0.2-0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA04 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA05 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA07 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA08 0-0.1	<5	<5	<5	<5	<5	<0.5	6.1	12	<5	<5	<5	<5	<5	<12.1	<5	<5	<5	<5	<5	<5	-
QA01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	0.7	0.7	-
QC01	<0.1	<0.1	<0.1	<0.1	0.1	<0.5	<0.5	<0.5	-	0.1	-	0.1	<0.1	0.167	0.1	<0.1	0.1	<0.1	-	0.2	0.74
HA09 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA10 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA11 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA12 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA13 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA14 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA15 0-0.1	2	<0.5	10	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	2.2	1.4	<0.5	10	28.9	1.9	-
HA16 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA17 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA19 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
HA20 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
QA02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC02	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	-	<0.1	-	<0.1	<0.1	<0.172	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.05
HA21 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA22 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
SP01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	0.5	<0.5	<0.5	<0.5	1	0.5	-
SP03	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
TP01 0.5-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01 3-3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02 0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
TP02 1-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21[#4]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH04	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21[#4]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH06	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21[#4]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21[#4]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
STOCKPILE	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21[#4]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-

Statistical Summary

Statistic	Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Total)
Number of Results	31	31	31	31	31	31	31	31	24	24	24	24	22
Number of Detects	29	2	30	31	30	1	31	31	0	8	12	12	12
Minimum Concentration	<2	<0.4	<5	14	<5	<0.1	6.3	16	<20	<20	<50	<50	<50
Minimum Detect	3.7	1.1	11	14	10	0.1	6.3	16	ND	20	50	51	75
Maximum Concentration	14	1.5	36	900	270	0.1	44	520	<200	8700	53000	7000	68700
Maximum Detect	14	1.5	36	900	270	0.1	44	520	ND	8700	53000	7000	68700
Average Concentration	8.5	0.27	21	63	35	0.052	13	132	14	385	2323	448	3380
Median Concentration	8.4	0.2	20	28	26	0.05	11	67	10	15	52.5	54	116
Standard Deviation	3.2	0.28	6.8	157	45	0.009	7.6	133	18	1771	10797	1442	14602
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

Statistic	>C10-C16 Fraction	>C16-C34 Fraction	>C34-C40 Fraction	>C10-C40 Fraction (Total)	>C10-C16 less Naphthalene (F2)	C6-C10 Fraction	C6-C10 less BTEX (F1)	Benzene	Ethylbenzene	Toluene	Xylene (o)	Xylene (m & p)	Xylene (Total)	Naphthalene
Number of Results	24	24	24	24	24	24	24	24	24	24	24	24	24	32
Number of Detects	1	10	2	10	1	0	0	0	0	0	0	0	0	1
Minimum Concentration	<50	<100	<100	<50	<50	<20	<20	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.1
Minimum Detect	19000	100	310	100	19000	ND	ND	ND	ND	ND	ND	ND	ND	1.4
Maximum Concentration	19000	48000	<10000	67000	19000	<200	<200	<0.5	<1	<0.5	<1	<2	<1.5	37
Maximum Detect	19000	48000	440	67000	19000	ND	ND	ND	ND	ND	ND	ND	ND	37
Average Concentration	834	2226	321	3029	834	14	14	0.065	0.098	0.077	0.098	0.2	0.21	0.83
Median Concentration	25	50	50	50	25	10	10	0.05	0.05	0.05	0.05	0.1	0.15	0.25
Standard Deviation	3870	9762	1008	13635	3870	18	18	0.043	0.13	0.068	0.13	0.26	0.15	3.4
Number of Guideline Exceedances	1	1	1	0	3	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	1	1	0	0	1	0	0	0	0	0	0	0	0	0

Statistic	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (lower bound)*	Benzo(a)pyrene TEQ (medium bound)*	Benzo(a)pyrene TEQ (upper bound)*	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Carcinogenic PAHs as B(a)P TEQ	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	PAHs (Total)	Pyrene	Total Positive PAHs
Number of Results	30	30	30	30	30	30	30	30	28	30	28	30	30	30	30	30	30	30	28	30	2
Number of Detects	1	0	1	0	1	0	28	28	0	1	0	1	0	1	3	1	1	2	4	5	1
Minimum Concentration	<0.1	<0.1	<0.1	<0.1	<0.05	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.1	<0.1	0.167	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.05
Minimum Detect	2	ND	10	ND	0.1	ND	0.6	1.2	ND	0.1	ND	0.1	ND	0.167	0.1	1.4	0.1	10	0.7	0.2	0.74
Maximum Concentration	<5	<5	10	<5	<5	<0.5	6.1	12	<5	<5	<5	<5	<5	<12.1	<5	<5	<5	12	38	26	0.74
Maximum Detect	2	ND	10	ND	0.1	ND	6.1	12	ND	0.1	ND	0.1	ND	0.167	2.2	1.4	0.1	12	38	26	0.74
Average Concentration	0.52	0.46	0.79	0.46	0.46	0.25	1.1	2.2	0.49	0.46	0.49	0.46	0.46	1.1	0.54	0.5	0.46	1.1	2.8	1.3	
Median Concentration	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	0.25	0.25	0.25	0.25	0.25	0.605	0.25	0.25	0.25	0.25	0.25	0.25	0.3825
Standard Deviation	0.75	0.69	1.9	0.69	0.69	0	1.7	3.3	0.71	0.69	0.71	0.69	0.69	1.7	0.76	0.71	0.69	2.8	8.8	4.7	
Number of Guideline Exceedances	0	0	0	0	3	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

Table A: Soil Analytical Data
Project Number: 55607
Project Name: Mamre Road, Kemps Creek

			PAHs in Soil	Organochlorine Pesticides																							
Field_ID	Sampled_Date-Time	Lab_Report_Number	Benzo(b,j+k)fluoranthene	4,4-DDE	Aldrin	Aldrin + Dieldrin (Sum of Total)	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane	DDD	DDT	Dieldrin	DDT+DDE+DDD (Sum of Total)	delta-BHC	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	Endrin aldehyde	gamma-Chlordane	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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				0.05	0.05	0.05	0.05		0.05	0.1	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	0.1	1
NEPC 2013 EIL, EILs Aged Sediment												180															
NEPM 2013 ESL Commercial and Industrial, Fine Soil																											
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Commercial/Industrial - HSL D																											
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL																											
NEPM 2013 Mgnt Limits - Commercial and Industrial, Fine																											
NEPM 2013 Soil HIL D						45				530				3600					100				50			2500	160
NEPM 2013 Soil HSL D for Vapour Intrusion - Clay 0 to <1m																											
FRAG-01	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FRAG-03	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA02 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA03 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA04 0.2-0.3	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA04 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA06 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA07 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA08 0-0.1	30-Nov-18	631102	-	<0.5	<0.5	<0.05	<0.5	-	<0.5	<1	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<10
QA01	30-Nov-18	631102	-	<0.5	<0.5	<0.05	<0.5	-	<0.5	<1	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<2	<10
QC01	30-Nov-18	207152	<0.2	<0.1	<0.1	<0.2[#9]	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
HA09 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA10 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA11 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA12 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA13 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.2	<1
HA14 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA15 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA16 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA17 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA18 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA19 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
HA20 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA02	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
QC02	30-Nov-18	207152	<0.2	<0.1	<0.1	<0.2[#9]	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
HA21 0-0.1	30-Nov-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA22 0-0.1	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
SP01	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
SP03	30-Nov-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
TP01 0.5-0.6	03-Dec-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01 0-0.1	03-Dec-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
TP01 3-3.1	03-Dec-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02 0-0.1	03-Dec-18	631102	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<0.2	<1
TP02 1-1.1	03-Dec-18	631102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02	16/01/2019	636089	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<1
BH04	16/01/2019	636089	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<1
BH06	16/01/2019	636089	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<1
BH07	16/01/2019	636089	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<1
STOCKPILE	16/01/2019	636089	-	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<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	<1

	Polychlorinated Biphenyls								Chlorinated Benzenes	Asbestos									
Field_ID	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Total)	Hexachlorobenzene	Approx. Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Mass ACM	Mass Asbestos in ACM	Mass FA	Mass Asbestos in FA	Mass AF	Mass Asbestos in AF	Mass Asbestos in FA & AF
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	%w/w	%w/w	g	g	g	g	g	g	g
EQL	0.5	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.05										
NEPC 2013 EIL, EILs Aged Sediment																			
NEPM 2013 ESL Commercial and Industrial, Fine Soil																			
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Commercial/Industrial - HSL D											0.05								
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL												0.001							
NEPM 2013 Mgnt Limits - Commercial and Industrial, Fine																			
NEPM 2013 Soil HIL D								7	80										
NEPM 2013 Soil HSL D for Vapour Intrusion - Clay 0 to <1m																			
FRAG-01	-	-	-	-	-	-	-	-	-	85	0	0	0	0	0	0	0	0	0
FRAG-03	-	-	-	-	-	-	-	-	-	115	0	0	0	0	0	0	0	0	0
HA01 0-0.1	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-
HA02 0-0.1	-	-	-	-	-	-	-	-	<0.05	630	0	0	0	0	0	0	0	0	0
HA03 0-0.1	-	-	-	-	-	-	-	-	-	736	0	0	0	0	0	0	0	0	0
HA04 0.2-0.3	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
HA04 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA05 0-0.1	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
HA06 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA07 0-0.1	-	-	-	-	-	-	-	-	-	693	0	0	0	0	0	0	0	0	0
HA08 0-0.1	-	-	-	-	-	-	-	-	<0.5	571	0	0	0	0	0	0	0	0	0
QA01	-	-	-	-	-	-	-	-	<0.5	608	0	0	0	0	0	0	0	0	0
QC01	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-
HA09 0-0.1	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
HA10 0-0.1	-	-	-	-	-	-	-	-	<0.05	626	0	0	0	0	0	0	0	0	0
HA11 0-0.1	-	-	-	-	-	-	-	-	-	533	0	0	0	0	0	0	0	0	0
HA12 0-0.1	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
HA13 0-0.1	-	-	-	-	-	-	-	-	<0.05	478	0	0.0003	0	0	0	0	0.0016	0.0015	0.0015
HA14 0-0.1	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
HA15 0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA16 0-0.1	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
HA17 0-0.1	-	-	-	-	-	-	-	-	<0.05	364	0	0	0	0	0	0	0	0	0
HA18 0-0.1	-	-	-	-	-	-	-	-	-	577	0	0	0	0	0	0	0	0	0
HA19 0-0.1	-	-	-	-	-	-	-	-	<0.05	552	0	0	0	0	0	0	0	0	0
HA20 0-0.1	-	-	-	-	-	-	-	-	-	649	0	0	0	0	0	0	0	0	0
QA02	-	-	-	-	-	-	-	-	<0.05	583	0	0	0	0	0	0	0	0	0
QC02	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-
HA21 0-0.1	-	-	-	-	-	-	-	-	-	597	0	0	0	0	0	0	0	0	0
HA22 0-0.1	-	-	-	-	-	-	-	-	<0.05	643	0	0	0	0	0	0	0	0	0
SP01	-	-	-	-	-	-	-	-	<0.05	378	0	0	0	0	0	0	0	0	0
SP03	-	-	-	-	-	-	-	-	<0.05	586	0	0	0	0	0	0	0	0	0
TP01 0.5-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP01 0-0.1	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
TP01 3-3.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP02 0-0.1	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-	-	-
TP02 1-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH04	-	-	-	-	-	-	-	-	-	478	0	0	0	0	0	0	0	0	0
BH06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH07	-	-	-	-	-	-	-	-	-	528	0	0	0	0	0	0	0	0	0
STOCKPILE	-	-	-	-	-	-	-	-	-	97	0	0	0	0	0	0	0	0	0

	Ionic Balance			Other			EPA VIC - IWRG621	
Field_ID	Cation Exchange Capacity	EC 1:5 soil:water	pH 1:5 soil:water	% Clay	% Moisture 103oC	Moisture	Organochlorine Pesticides EPAVic	Other Organochlorine Pesticides EPAVic
	meq/100g	µS/cm	ph Units	%	%	%	mg/kg	mg/kg
EQL	0.05	5	0.1	1	1		0.1	0.1
NEPC 2013 EIL, EILs Aged Sediment								
NEPM 2013 ESL Commercial and Industrial, Fine Soil								
NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Commercial/Industrial - HSL D								
NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL								
NEPM 2013 Mgnt Limits - Commercial and Industrial, Fine								
NEPM 2013 Soil HIL D								
NEPM 2013 Soil HSL D for Vapour Intrusion - Clay 0 to <1m								
FRAG-01	-	-	-	-	-	-	-	-
FRAG-03	-	-	-	-	-	-	-	-
HA01 0-0.1	-	-	-	-	38	-	-	-
HA02 0-0.1	-	-	-	-	15	-	<0.1	<0.1
HA03 0-0.1	-	-	-	-	17	-	-	-
HA04 0.2-0.3	-	-	-	-	15	-	<0.1	<0.1
HA04 0-0.1	-	-	-	-	19	-	-	-
HA05 0-0.1	-	-	-	-	16	-	<0.1	<0.1
HA06 0-0.1	-	-	-	-	28	-	-	-
HA07 0-0.1	-	-	-	-	35	-	-	-
HA08 0-0.1	-	-	-	-	16	-	<0.1	<0.1
QA01	-	-	-	-	18	-	<0.1	<0.1
QC01	-	-	-	-	-	6	-	-
HA09 0-0.1	-	-	-	-	23	-	<0.1	<0.1
HA10 0-0.1	-	-	-	-	16	-	<0.1	<0.1
HA11 0-0.1	-	-	-	-	14	-	-	-
HA12 0-0.1	-	-	-	-	22	-	<0.1	<0.1
HA13 0-0.1	-	-	-	-	26	-	<0.1	<0.1
HA14 0-0.1	-	-	-	-	17	-	<0.1	<0.1
HA15 0-0.1	-	-	-	-	9.7	-	-	-
HA16 0-0.1	-	-	-	-	22	-	<0.1	<0.1
HA17 0-0.1	-	-	-	-	30	-	<0.1	<0.1
HA18 0-0.1	-	-	-	-	17	-	-	-
HA19 0-0.1	-	-	-	-	18	-	<0.1	<0.1
HA20 0-0.1	-	-	-	-	16	-	-	-
QA02	-	-	-	-	17	-	<0.1	<0.1
QC02	-	-	-	-	-	13	-	-
HA21 0-0.1	-	-	-	-	22	-	-	-
HA22 0-0.1	-	-	-	-	21	-	<0.1	<0.1
SP01	-	-	-	-	24	-	<0.1	<0.1
SP03	-	-	-	-	16	-	<0.1	<0.1
TP01 0.5-0.6	17	190	5.1	33	18	-	-	-
TP01 0-0.1	-	-	-	-	13	-	<0.1	<0.1
TP01 3-3.1	7.5	620	4.6	23	11	-	-	-
TP02 0-0.1	-	-	-	-	17	-	<0.1	<0.1
TP02 1-1.1	13	180	5.3	24	16	-	-	-
BH02	-		-			13	<0.1	<0.1
BH04	-		-			14	<0.1	<0.1
BH06	-		-			15	<0.1	<0.1
BH07	-		-			18	<0.1	<0.1
STOCKPILE	-		-			68	<0.1	<0.1

Statistical Summary

	Benzo(b,j+k)fluoranthene	4,4-DDE	Aldrin	Aldrin + Dieldrin (Sum of Total)	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane	DDD	DDT	Dieldrin	DDT+DDE+DDD (Sum of Total)	delta-BHC	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	Endrin aldehyde	gamma-Chlordane	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene
Number of Results	2	26	26	26	26	2	26	24	26	26	26	26	26	26	26	26	26	26	2	24	26	26	26	26	24
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
Minimum Concentration	<0.2	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<1
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
Maximum Concentration	<0.2	<0.5	<0.5	<0.2	<0.5	<0.1	<0.5	<1	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<2	<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
Average Concentration		0.044	0.044	0.031	0.044		0.044	0.088	0.045	0.045	0.044	0.027	0.044	0.044	0.044	0.044	0.044	0.044		0.044	0.044	0.044	0.044	0.15	0.88
Median Concentration	0.1	0.025	0.025	0.025	0.025	0.05	0.025	0.05	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.05	0.025	0.025	0.025	0.025	0.1	0.5
Standard Deviation		0.061	0.061	0.02	0.061		0.061	0.13	0.061	0.061	0.061	0.0068	0.061	0.061	0.061	0.061	0.061	0.061		0.064	0.061	0.061	0.061	0.25	1.3
Number of Guideline Exceedances	0	0	0	0	0	0	0	0	0	26	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	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Total)	Hexachlorobenzene	Approx. Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Mass ACM	Mass Asbestos in ACM	Mass FA	Mass Asbestos in FA	Mass AF	Mass Asbestos in AF	Mass Asbestos in FA & AF
Number of Results	1	1	1	1	1	1	1	1	21	22	22	22	22	22	22	22	22	22	22
Number of Detects	0	0	0	0	0	0	0	0	0	22	22	22	22	22	22	22	22	22	22
Minimum Concentration	<5	<5	<5	<5	<5	<5	<5	<5	<0.05	85	0	0	0	0	0	0	0	0	0
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	85	ND	0.0003	ND	ND	ND	ND	0.0016	0.0015	0.0015
Maximum Concentration	<5	<5	<5	<5	<5	<5	<5	<5	<0.5	736	0	0.0003	0	0	0	0	0.0016	0.0015	0.0015
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	736	ND	0.0003	ND	ND	ND	ND	0.0016	0.0015	0.0015
Average Concentration									0.049	505	0	1.4E-05	0	0	0	0	7.3E-05	6.8E-05	6.8E-05
Median Concentration	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.025	574	0	0	0	0	0	0	0	0	0
Standard Deviation									0.067	187	0	6.4E-05	0	0	0	0	0.00034	0.00032	0.00032
Number of Guideline Exceedances	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

	Cation Exchange Capacity	EC 1:5 soil:water	pH 1:5 soil:water	% Clay	% Moisture 103oC	Moisture	Organochlorine Pesticides EPAVic	Other Organochlorine Pesticides EPAVic
Number of Results	3	3	3	3	32	7	24	24
Number of Detects	3	3	3	3	32	7	0	0
Minimum Concentration	7.5	180	4.6	23	9.7	6	<0.1	<0.1
Minimum Detect	7.5	180	4.6	23	9.7	6	ND	ND
Maximum Concentration	17	620	5.3	33	38	68	<0.1	<0.1
Maximum Detect	17	620	5.3	33	38	68	ND	ND
Average Concentration	13	330	5	27	19	21	0.05	0.05
Median Concentration	13	190	5.1	24	17	14	0.05	0.05
Standard Deviation	4.8	251	0.36	5.5	6.4	21	0	0
Number of Guideline Exceedances	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)	0	0	0	0	0	0	0	0

Table B: Soil Leachate
Project Number: 55607
Project Name: Mamre Road Kemps Creek

					Metals & Metalloids								BTEXN	Polycyclic Aromatic Hydrocarbons																Ionic Balance		
					Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	Naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	PAHs (Total)	Pyrene	pH (TCLP - HCl addition)	pH (TCLP - initial)	pH (TCLP - off)
					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ph Units	ph Units	ph Units
EQL					0.01	0.005	0.05	0.05	0.01	0.001	0.05	0.05	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.1	0.1	0.1
Field_ID	**LocCode**	**Sample_Depth_Range**	**Sampled_Date-Time**	**Matrix_Description**																												
HA15 0-0.1	HA15	0-0.1	30-Nov-18		<0.01	<0.005	<0.05	<0.05	<0.01	<0.001	<0.05	0.69	0.057	0.013	0.001	<0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.006	<0.001	0.018	0.097	<0.002	1.8	6	5.3
Statistical Summary																																
Number of Results					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of Detects					0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1	1	0	1	1	1
Minimum Concentration					<0.01	<0.005	<0.05	<0.05	<0.01	<0.001	<0.05	0.69	0.057	0.013	0.001	<0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.006	<0.001	0.018	0.097	<0.002	1.8	6	5.3
Minimum Detect					ND	ND	ND	ND	ND	ND	ND	0.69	0.057	0.013	0.001	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0.006	ND	0.018	0.097	ND	1.8	6	5.3
Maximum Concentration					<0.01	<0.005	<0.05	<0.05	<0.01	<0.001	<0.05	0.69	0.057	0.013	0.001	<0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.006	<0.001	0.018	0.097	<0.002	1.8	6	5.3
Maximum Detect					ND	ND	ND	ND	ND	ND	ND	0.69	0.057	0.013	0.001	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0.006	ND	0.018	0.097	ND	1.8	6	5.3
Average Concentration																																
Median Concentration					0.005	0.0025	0.025	0.025	0.005	0.0005	0.025	0.69	0.057	0.013	0.001	0.0075	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.002	0.006	0.0005	0.018	0.097	0.001	1.8	6	5.3
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	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

Table C - Dam Water Screening Assessment
Project Number: 55607
Project Name: Mamre Road Kemps Creek

			Metals & Metalloids								TPHs (NEPC 1999)					TRHs (NEPC 2013)							BTEXN						
			Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Total)	>C10-C16 Fraction	>C16-C34 Fraction	>C34-C40 Fraction	>C10-C40 Fraction (Total)	>C10-C16 less Naphthalene (F2)	>C6-C10 Fraction	>C6-C10 less BTEX (F1)	Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene (Total)	Naphthalene
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.001	0.0002	0.001	0.001	0.001	0.0001	0.001	0.005	0.02	0.05	0.1	0.1	0.1	0.05	0.1	0.1	0.1	0.05	0.02	0.02	0.001	0.001	0.001	0.001	0.002	0.003	0.01
ANZG (2018) Freshwater 95% toxicant DGVs				0.0002[#1]		0.0014[#1]	0.0034[#2]	0.0006[#3]	0.011[#1]	0.008[#4]													0.95[#2]			0.35[#3]			0.016[#1]
Field_ID	**Sampled_Date-Time**	**Lab_Report_Number**																											
POND	16/01/2019	636089	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<0.02	<0.05	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.05	<0.02	<0.02	<0.001	<0.001	<0.001	<0.001	<0.002	<0.003	<0.01

Env Stds Comments
#1:Very high reliability
#2:Moderate reliability
#3:Low reliability
#4:High reliability

Table C - Dam Water Screening Assessment
Project Number: 55607
Project Name: Mamre Road Kemps Creek

	Organochlorine Pesticides																														
	4,4-DDE	Aldrin	Aldrin + Dieldrin (Sum of Total)	alpha-BHC	beta-BHC	Chlordane	DDD	DDT	Dieldrin	DDT+DDE+DDD (Sum of Total)	delta-BHC	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene	Azinphos methyl	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos
	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	0.1	0.0001	0.0001	0.0001	0.0001	0.001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.01	0.002	0.002	0.02	0.002	0.02	0.002	0.02	0.002	0.002
						0.00008[#2]		0.00001[#2]							0.00002[#2]			0.00009[#2]		0.0002[#2]		0.0002[#2]	0.00002[#2]		0.00001[#2]					0.00001[#2]	
	<0.1	<0.0001	<0.0001	<0.0001	<0.0001	<0.001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.01	<0.002	<0.002	<0.02	<0.002	<0.02	<0.002	<0.02	<0.002	<0.002

Table C - Dam Water Screening Assessment
Project Number: 55607
Project Name: Mamre Road Kemps Creek

Organophosphorus Pesticides																									Chlorinated Benzenes	VIC - IWRG	
Dimethoate	Disulfoton	EPN	Fenthion	Ethoprophos	Fenitrothion	Fensulfothion	Fenthion	Malathion	Merphos	Mevinphos	Monocrotophos	Naled	Omethoate	Parathion	Parathion methyl	Phorate	Pirimiphos methyl	Pyrazophos	Ronnel	Sulprofos	Terbufos	Tetrachlorvinphos	Tokuthion	Trichloronate	Hexachlorobenzene	Organochlorine Pesticides EPAVic	Other Organochlorine Pesticides EPAVic
mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.02	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.0001	1	1
0.00015[42]					0.0002[42]			0.00005[42]						0.000004[42]													
<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.02	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.0001	<1	<1

APPENDIX D – CONSTRUCTION LOGS

Groundwater monitoring well construction logs

Test pit logs

Hand auger logs

ARCADIS Design & Consultancy for natural and built assets

Monitoring Well Log

Hole ID: MW02

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019
Logger: Tom Keatley
Project Number: 10035157.2
Date Completed: 08/10/2019
Editor: NA
Project Location: 788-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
SFA			Natural		(0.0-0.2 mBGL) SILTY CLAY, dark orange brown, soft.	dry	0.1	MW02_0.2	Rootlets No odour No stain		
					(0.2-2.4 mBGL) CLAY, reddish brown, soft.	dry	0.1	MW02_0.5	No odour No stain		
		1.0					0.1	MW02_1.0			
		2.0					0.0	MW02_2.0 QA001-TK & QA002-TK		Backfilled with spoil and bentonite (0-8m)	
					(2.4-3.2 mBGL) CLAY, brown orange to grey, mottled clay.	dry			No odour No stain		
		3.0					0.0	MW02_3.0			
					(3.2-4.3 mBGL) CLAY, brown, weathered gravels, stiff.	dry			No odour No stain		
		4.0					0.0	MW02_4.0			
					(4.3-5.2 mBGL) Weathered SHALE, brown to orange.	dry					
		5.0					0.0	MW02_5.0			
					(5.2-12.0 mBGL) SILT (shale), brown.						
		6.0					1.4	MW02_6.0		Bentonite (8-8.5m)	
		7.0					0.1	MW02_7.0		Sand (8.5-12m)	
		8.0									
		9.0									
		10.0					0.1	MW02_10.0		Well Screen (9-12m)	
Air Hammer	▼	11.0									
		12.0			End of hole at 12.0 mBGL.						

Drilling Co.: BG Drilling
Driller: NA
Drilling Method: Solid Flight Auger + air hammer
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available; AHD = Australian Height Datum; Solid Flight Auger (SFA).

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): 10.0
Water Level Finish (mBTOC): NA
Converted to Well: ☒ Yes ☐ No
Top of Well Casing Elev (M): 51.525
North Coor: 6253413
East Coor: 295305

10035157.2 MIRVAC D:\BORING LOGS\AUSTRALIA PROJECTS\10035157.2 MIRVAC\D-PROJECT\WORKING_\D02-DRAWINGS\10035157.2-MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 10/23/19

ARCADIS Design & Consultancy for natural and built assets

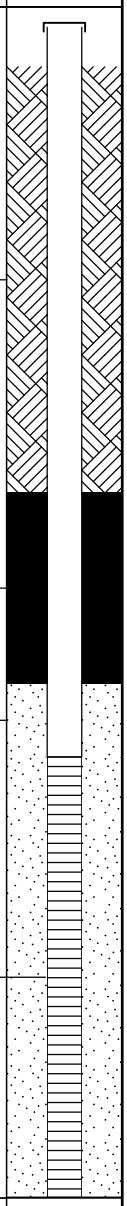
Monitoring Well Log

Hole ID: MW03

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 09/10/2019
Logger: Tom Keatley
Project Number: 10035157.2
Date Completed: 09/10/2019
Editor: NA
Project Location: 788-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details
SFA			Natural		(0.0-1.2 mBGL) CLAY, red/brown.		0.0	MW03_0.2	No foreign No odour	
							0.1	MW03_0.5		
		1.0						MW03_1.2		
					(1.2-2.7 mBGL) Weathered SHALE, light brown.				No foreign No odour	
		2.0					0.1	MW03_2.0		Backfilled with spoil and bentonite (0-6.5m)
							0.1	MW03_2.7		
		3.0			(2.7-6.5 mBGL) Weathered SHALE, reddish brown.				Refusal at solid flight auger at 2.7m water added to assist	
		4.0					0.1	MW03_4.0		
		5.0					0.1	MW03_5.0		Bentonite (6.5-7m)
		6.0								Sand (7-10.5m)
Air Hammer					(6.5-10.5 mBGL) SHALE, grey as dust out of schiender.	dry	0.1	MW03_6.5	Refusal with solid flight auger at 6.5m.	
		7.0								
		8.0								
		9.0								Well Screen (7-10.5m)
		10.0								
					End of hole at 10.5 mBGL.					
		11.0								



Drilling Co.: BG Drilling
Driller: NA
Drilling Method: Solid Flight Auger + air hammer
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available; AHD = Australian Height Datum; Solid Flight Auger (SFA). Left hole open.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☒ Yes ☐ No
Top of Well Casing Elev (M): 61.429
North Coor: 6252758
East Coor: 294944

10035157.2 MIRVAC D:\BORING LOGS\AUSTRALIA PROJECTS\10035157.2 MIRVAC\D-PROJECT\WORKING_\D02-DRAWINGS\10035157.2-MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 10/23/19

ARCADIS Design & Consultancy for natural and built assets

Monitoring Well Log

Hole ID: MW04

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 09/10/2019
Logger: Tom Keatley
Project Number: 10035157.2
Date Completed: 09/10/2019
Editor: NA
Project Location: 788-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
SFA			Natural		(0.0-1.3 mBGL) CLAY, red, stiff.		0.2	MW04_0.2	No odour No foreign		
							0.3	MW04_0.5			
		1.0					0.3	MW04_1.0			
					(1.3-1.6 mBGL) CLAY, grey, stiff.				No odour No foreign		
					(1.6-2.4 mBGL) CLAY/SHALE, pinkish red, stiff.				No odour No foreign		
		2.0					0.0	MW04_2.0		Backfilled with spoil and bentonite (0.0-4.5m)	
					(2.4-8.8 mBGL) SHALE, light brown.						
		3.0					0.2	MW04_3.0			
		4.0					0.2	MW04_4.0			
										Bentonite (4.5-5m)	
		5.0					0.2	MW04_5.0		Sand Pack (5.0-8.8m)	
		6.0					0.2	MW04_6.0			
		7.0			At 7.0m black inclusions, gravels, oily.		0.2	MW04_7.0		Well Screen (5.8-8.8m)	
		8.0					0.2	MW04_8.0			
		9.0			End of hole at 8.8 mBGL.						

Drilling Co.: BG Drilling
Driller: NA
Drilling Method: Solid Flight Auger
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available; AHD = Australian Height Datum; Solid Flight Auger (SFA).

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☒ Yes ☐ No
Top of Well Casing Elev (M): 51.168
North Coor: 6252998
East Coor: 295177

10035157.2 MIRVAC D:\BORING LOGS\AUSTRALIA PROJECTS\10035157.2 MIRVAC\D-PROJECT\WORKING_\D02-DRAWINGS\10035157.2-MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 10/23/19

ARCADIS Design & Consultancy for natural and built assets

Monitoring Well Log

Hole ID: MW05

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 09/10/2019
Logger: Tom Keatley
Project Number: 10035157.2
Date Completed: 09/10/2019
Editor: NA
Project Location: 788-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
SFA			Natural		(0.0-0.3 mBGL) Topsoil, grass, clay, brown, silty.		0.0	MW05_0.2 QA003-TK	Some rootlets No odour No PACM		
					(0.3-2.7 mBGL) CLAY, red, slight stiff.	dry	0.0	QA004-TK			
								MW05_0.5			
		1.0			red/brown.		0.0	MW05_1.0			
										Backfilled with spoil and bentonite (0-4m)	
		2.0			red/grey.		0.0	MW05_2.0			
		3.0			(2.7-4.8 mBGL) CLAY with weathered SANDSTONE, yellowish brown, grey.		0.0	MW05_3.0			
		4.0					0.0	MW05_4.0		Bentonite (4-5.5m)	
		5.0			(4.8-9.0') SHALE, light brown.		0.0	MW05_5.0	No odour.	Sand (5.5-9m)	
		6.0					0.0	MW05_6.0			
		7.0					0.0	MW05_7.0		Well Screen (6-9m)	
		8.0					0.0	MW05_8.0			
		9.0					0.0	MW05_9.0			
					End of hole at 9.0 mBGL.						

Drilling Co.: BG Drilling
Driller: NA
Drilling Method: Solid Flight Auger
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available; AHD = Australian Height Datum; Solid Flight Auger (SFA).

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): 8.5
Water Level Finish (mBTOC): NA
Converted to Well: ☒ Yes ☐ No
Top of Well Casing Elev (M): 49.925
North Coor: 6253089
East Coor: 295272

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ARCADIS Design & Consultancy for natural and built assets

Monitoring Well Log

Hole ID: MW06

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 09/10/2019
Logger: Tom Keatley
Project Number: 10035157.2
Date Completed: 09/10/2019
Editor: NA
Project Location: 788-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
SFA			Natural		(0.0-0.5 mBGL) CLAY, brown.		0.0	MW06_0.2	No foreign No odour		
					(0.5-2.0 mBGL) CLAY, red, stiff.		0.0	MW06_0.5	No foreign No odour		
		1.0			At 1.0 mBGL, mottled clay, red grey.		0.0	MW06_1.0			
		2.0			(2.0-4.0 mBGL) Weathered SHALE, brown, sandy, yellow.		0.0	MW06_2.0		Backfilled with spoil and bentonite (0-6.5m)	
		3.0									
		4.0					0.0	MW06_4.0			
Air Hammer					(4.0-10.5 mBGL) SHALE, grey with gravels.				Refusal with solod flight auger.		
		5.0								Bentonite (6.5-7m)	
		6.0									
										Sand (7-10.5m)	
		7.0									
		8.0									
										Well Screen (7.5-10.5m)	
		9.0									
		10.0									
					End of hole at 10.5 mBGL.						
		11.0									

Drilling Co.: BG Drilling
Driller: NA
Drilling Method: Solid Flight Auger + air hammer
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available; AHD = Australian Height Datum; Solid Flight Auger (SFA).

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): 10.5
Water Level Finish (mBTOC): NA
Converted to Well: ☒ Yes ☐ No
Top of Well Casing Elev (M): 62.123
North Coor: 6253158
East Coor: 295552

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ARCADIS Design & Consultancy for natural and built assets

Monitoring Well Log

Hole ID: MW01

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019
Logger: Tom Keatley
Project Number: 10035157.2
Date Completed: 08/10/2019
Editor: NA
Project Location: 788-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
SFA			Fill		(0.0-1.2 mBGL) Topsoil, brown, silty clay, some white sands/gravels	dry	0.7	MW01_0.2	Rootlets No foreign No stain		
							0.7	MW01_0.5			
		1.0				slight moist	0.6	MW01_1.0			
			Natural		(1.2-2.3 mBGL) CLAY, orange, brown, slight stiff.	dry			No odour No foreign	Backfilled with spoil and bentonite (0-3.2m)	
		2.0					0.6	MW01_2.0			
					(2.3-3.2 mBGL) CLAY, orange, slight stiff.				No odour.		
		3.0					0.5	MW01_3.0			
					(3.2-7.7 mBGL) CLAY, light brown, slightly stiff.				No stain No odour		
		4.0					0.8	MW01_4.0		Bentonite (3.2-4.5m)	
										Sand (4.5-8m)	
		5.0					0.5	MW01_5.0			
		6.0			Saturated > 6.0 mBGL	moist	0.6	MW01_6.0		Well Screen (5-8m)	
	▼	7.0					0.3	MW01_7.0			
								MW01_8.0			
		8.0			(7.7-8.0 mBGL) Weathered SHALE, brown, orange.		0.4		Saturated No stain No odour		
					End of hole at 8.0 mBGL.						

Drilling Co.: BG Drilling
Driller: NA
Drilling Method: Solid Flight Auger
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available; AHD = Australian Height Datum; Solid Flight Auger (SFA).

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): 6.5
Water Level Finish (mBTOC): NA
Converted to Well: ☒ Yes ☐ No
Top of Well Casing Elev (M): 42.189
North Coor: 6253420
East Coor: 294749

10035157.2 MIRVAC D:\BORING LOGS\AUSTRALIA PROJECTS\10035157.2 MIRVAC\D-PROJECT\WORKING_\D02-DRAWINGS\10035157.2-MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 10/23/19

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Test Pit Log

Hole ID: TP101

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019 Logger: T.K
Project Number: 10035157.2
Date Completed: 08/10/2019 Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe		0.1	Fill		(0.0-0.1 mBGL) Grass- Concrete material in reworked natural matrix.				No odors, No staining, No PACM observed.		
		0.2	Fill		(0.1-0.2 mBGL) Topsoil, silty clay, brown.			TP101 @ 0.1	Rootlets No odour No PACM.		
		0.3	Natural		(0.2-0.7 mBGL) CLAY, orange to brown.		0.2	TP101 @ 0.2	Rootlets No odour No PACM.		
		0.4									
		0.5					0.2	TP101 @ 0.5		Backfilled with native material	
		0.6									
		0.7			(0.7-1.0 mBGL) Becoming grey to brown with orange Weathered SHALE, gravels.				No odour No PACM		
		0.8									
		0.9									
		1.0					0.2	TP101 @ 1.0			
		1.1			End of hole at 1.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

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Test Pit Log

Hole ID: TP102

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019 Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019 Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe		0.1	Fill		(0.0-0.1 mBGL) Cover/Fill material - reworked natural, clay / silty clay.		0.2	TP102 @ 0.1	Rootlets present, No odors, No staining, No PACM Observed.	Backfilled with native material	
		0.2			(0.1-0.4 mBGL) Silty CLAY soil/Fill	dry		TP102 @ 0.2	Rootlets present No odors, No staining, No PACM Observed.		
		0.3									
		0.4	Natural		Fine CLAY, Natural orange - homogenous.				Rootlets present No odors, No staining, No PACM Observed.		
		0.5					0.1	TP102 @ 0.5			
		0.6									
		0.7									
		0.8									
		0.9									
		1.0						TP102 @ 1.0			
		1.1									
	▼	1.2					0.2				
		1.3			End of hole at 1.2 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): 1.2
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP103

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019
Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019
Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe		0.1	Fill		(0.0-0.1 mBGL) Grass covering- roots, paddock soil-continuous to next layer, silty clay reworked natural.		0.2	TP103 @ 0.1	Silt Rootlets present, No odors,No staining, No PACM observed.	Backfilled with native material	
		0.2	Natural		(0.1-0.3 mBGL) Silty CLAY reworked natural, dark brown, small gravels <0.5 mm.			TP103 @ 0.2	Fine rootlets bioturbation No odors,No staining, No PACM observed.		
		0.3			(0.3-1.0 mBGL) Sharp transition to orange SHALE, appears to be natural unworked homogeneous.				No/Minimal rootlets		
		0.4									
		0.5					0.2	TP103 @ 0.5			
		0.6									
		0.7									
		0.8									
		0.9									
		1.0					0.2	TP103 @ 1.0			
		1.1			End of hole at 1.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP104

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019 Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019 Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe		0.1	Fill		(0.0-0.1 mBGL) Grass on FILL, humic material (shallow).		0.0	TP104 @ 0.1	Rootlets present, No odors, No staining, No PACM Observed.	Backfilled with native material	
		0.2			(0.1-0.3 mBGL) Gravel/Concrete FILL, large <60 mm chunks.		0.0	TP104 @ 0.2 QA1 & QA2	Road base for trucks -Michael (site owner) No odors, No staining, No PACM Observed.		
		0.3	Natural		(0.3-1.0 mBGL) SHALE, not very weathered, fine clay matrix, homogeneous, hard.						
		0.4									
		0.5									
		0.6									
		0.7									
		0.8									
		0.9									
		1.0					0.0	TP104 @ 1.0			
		1.1			End of hole at 1.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available. PACM sample @ 0.1 mBGL.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP105

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019 Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019 Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe		0.1	Natural		(0.0-0.1 mBGL) Grass in 0 horizon (Topsoil), dark clayey silt, potentially reworked natural.				Rootlets to 0.2-0.3 mBGL No odors,No staining, No PACM observed.		
					(0.1-0.45 mBGL) Mottled orange and dark grey clay, natural material.	moist		TP105 @ 0.1	No rootlets No odors, No staining,		
		0.2					0.0	TP105 @ 0.2	No PACM observed.		
		0.3									
		0.4									
		0.5			(0.45-1.0 mBGL) Homogeneous orange clay with manganese staining.	dry	0.0	TP105 @ 0.5	Hard, fractures	Backfilled with native material	
		0.6									
		0.7									
		0.8									
		0.9									
		1.0					0.0	TP105 @ 1.0			
		1.1			End of hole at 1.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

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ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP106

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019
Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019
Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe			Natural		(0.0-0.05 mBGL) Thick grass-humic layer of reworked natural.					Backfilled with native material	
		0.1			(0.05-0.4 mBGL) Humic Clayey SILT, soil with rootlets, dark homogeneous	dry		TP106 @ 0.1	Horizontal bedding No odors, No staining, No PACM observed.		
		0.2					0.1	TP106 @ 0.2			
		0.3									
		0.4			(0.4-0.95 mBGL) Homogeneous orange CLAY with minimal rootlets, mottling brownish profile, natural material, horizontal bedding, small aggregate <0.5 mm (about 10%).				Natural Material		
		0.5					0.0	TP106 @ 0.5			
		0.6									
		0.7									
		0.8									
		0.9									
		1.0			(0.95-1.0 mBGL) Mottled orange/grey, weathered SHALE, Fe+ stained silt with light grey clay.		0.0	TP106 @ 1.0			
		1.1			End of hole at 1.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available. PACM sample @ 0.1 mBGL.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP107

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019
Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019
Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe			Natural		(0.0-0.05 mBGL) Thick grass, silty clay topsoil, friable, high humic content.	dry			Roots - bioturbated subsurface	Backfilled with native material	
		0.1			Dark orange CLAY, no organic apart from some rootlets contains well rounded pebbles, <5 cm and charcoal fragments.			TP107 @ 0.1	Natural Material No odors, No staining, No PACM observed.		
		0.2					0.0	TP107 @ 0.2			
		0.3									
		0.4			Sharp unconformity to weathered SHALE/white CLAY layer, mottled with Fe+ stained silt/fine sand.						
		0.5					0.2	TP107 @ 0.5			
		0.6									
		0.7									
		0.8									
		0.9									
		1.0					0.0	TP107 @ 1.0			
		1.1			End of hole at 1.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available. PACM sample @ 0.1 mBGL.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP108

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019
Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019
Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe		0.1	Natural		(0.0-0.2 mBGL) Grass think, topsoil, 0 horizon, clayey silt with high humic contact, moist, no disturbance.			TP108 @ 0.1	Roots from 0.0-0.2 mBGL, homogeneous horizon. No odors, No staining, No PACM observed.		
		0.2			(0.2-1.0 mBGL) Natural CLAY, homogeneous except for some charcoal fragments, soft, natural material.	moist	0.2	TP108 @ 0.2	Natural clay, featureless.		
		0.3									
		0.4									
		0.5					0.1	TP108 @ 0.5		Backfilled with native material	
		0.6									
		0.7									
		0.8									
		0.9									
		1.0					0.0	TP108 @ 1.0			
		1.1			End of hole at 1.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available. PACM sample @ 0.1 mBGL.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP109

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019 Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019 Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe		0.1	Natural		(0.0-0.35 mBGL) Thick grass with roots to 0.15 m, clayey silt soil, dark, homogeneous.	moist		TP109 @ 0.1	Roots No odors, No staining, No PACM observed.		
		0.2					0.2	TP109 @ 0.2			
		0.3									
		0.4			(0.35-0.75 mBGL) Homogeneous orange clay, fine, no silt, natural material.				Soft No odors, No staining, No PACM observed.		
		0.5					0.2	TP109 @ 0.5		Backfilled with native material	
		0.6									
		0.7									
		0.8			(0.75-1.1 mBGL) Natural weathered SHALE/CLAY, mottled orange/white clay/silt.				Weathered shale with clay layers.		
		0.9									
		1.0					0.1	TP109 @ 1.0			
		1.1									
		1.2			End of hole at 1.1 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available. Asbestos @ 0.1 mBGL.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

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ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP110

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019 Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019 Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe		0.1	Fill		(0.0-0.1 mBGL) FILL: long grass O horizon into fill. Reworked silty clay.			TP110 @ 0.1	Mottled growth in fill	Backfilled with native material	
		0.2			(0.1-0.4 mBGL) FILL - Reworked silty clay..		0.0	TP110 @ 0.2	Fill is natural material removed during dam excavation. No odor, no staining, no PACM observed.		
		0.3									
		0.4			(0.4-1.2 mBGL) FILL compacted reworked silty clay.						
		0.5					0.0	TP110 @ 0.5			
		0.6									
		0.7									
		0.8									
		0.9									
		1.0					0.0	TP110 @ 1.0			
		1.1									
		1.2	Natural		(1.2-1.8 mBGL) Original Topsoil, humic material silty clay.				No odors, No staining, No PACM observed.		
		1.3									
		1.4									
		1.5					0.0	TP110 @ 1.5			
		1.6									
		1.7									
		1.8			(1.2-2.0 mBGL) Natural material, mottled weathered SHALE/orange CLAY.				Natural Material.		
		1.9									
		2.0					0.0	TP110 @ 2.0			
		2.1			End of hole at 2.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP111

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019 Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019 Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
		0.1	Fill		(0.0-0.3 mBGL) Long grass in thick humic horizon, Fe rich silty clay worked naturals, dark.	moist		TP111 @ 0.1	Long roots No odors, No staining, No PACM observed.		
		0.2					0.0	TP111 @ 0.2			
		0.3	Natural		(0.3-0.9 mBGL) Orange homogeneous CLAY, mottled in lower section.				Natural Material		
		0.4									
		0.5					0.2	TP111 @ 0.5		Backfilled with native material	
		0.6									
		0.7									
		0.8									
		0.9			(0.9-1.0 mBGL) Mottled weathered SHALE, light grey to orange Fe+ stained silt.						
		1.0					0.0	TP111 @ 1.0			
					End of hole at 1.0 mBGL.						
		1.1									

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2-MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP112

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019
Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019
Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
		0.1	Natural		(0.0-0.2 mBGL) Organics O horizon reworked natural silty clay, light brown.			TP112 @ 0.1	Silty clay No odors, No staining, No PACM observed.		
		0.2			(0.2-0.4 mBGL) Natural material, slightly reworked orange Silty Clay, homogeneous.		0.0	TP112 @ 0.2	clay matrix No odors, No staining, No PACM observed.		
		0.3									
		0.4			(0.4-0.5 mBGL) Hard indurated layer of silty clay (roots, old, charcoal).				clay matrix		
		0.5			(0.5-1.0 mBGL) Weathered SHALE, mottled, Fe+.		0.0	TP112 @ 0.5		Backfilled with native material	
		0.6									
		0.7									
		0.8									
		0.9									
		1.0					0.0	TP112 @ 1.0			
					End of hole at 1.0 mBGL.						
		1.1									

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

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ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP113

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019 Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019 Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe		0.1	Fill		(0.0-0.5 mBGL) Grass, topsoil, dark brown, silty clay and rock pieces 5 cm, subrounded.			TP113 @ 0.1	Rootlets, PVC, No odors, No staining, No PACM Observed.		
		0.2					0.4	TP113 @ 0.2			
		0.3									
		0.4									
		0.5					0.5	TP113 @ 0.5			
		0.6	Natural		(0.5-2.0 mBGL) CLAY, brown, some sand, soft, homoogenous.				Rootlets- Natural material		
		0.7									
		0.8									
		0.9									
		1.0					0.6	TP113 @ 1.0		Backfilled with native material	
		1.1									
		1.2									
		1.3									
		1.4									
		1.5									
		1.6									
		1.7									
		1.8									
		1.9									
	▼	2.0					0.6	TP113 @ 2.0			
		2.1			End of hole at 2.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): 2.0
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP114

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019 Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019 Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe			Fill		0.0-0.05 mBGL) FILL: Road/compacted clay, fine, hard, brown.				Grass, rootlets	Backfilled with native material	
		0.1			(0.05-1.6 mBGL) FILL: continuous to mottled down to 1.6 mBGL, hard, compacted clay.			TP114 @ 0.1	Battered side of dam		
		0.2					0.2	TP114 @ 0.2	No odors,		
		0.3							No staining,		
		0.4							No PACM observed.		
		0.5						TP114 @ 0.5			
		0.6									
		0.7									
		0.8									
		0.9									
		1.0					0.2	TP114 @ 1.0			
		1.1									
		1.2									
		1.3									
		1.4									
		1.5									
		1.6	Natural		(1.6-2.1 mBGL) Natural material, at base, dora orange homogeneous soil.				No rootlets homogeneous		
		1.7									
		1.8									
		1.9									
		2.0					0.1	TP114 @ 2.0			
		2.1									
					End of hole at 2.1 mBGL.						
		2.2									

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available. Asbestos samples @ 0.1 and 1.5 mBGL.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

ARCADIS Design & Consultancy for natural and built assets

Test Pit Log

Hole ID: TP115

Sheet: 1 of 1

Project Name: Mirvac
Date Started: 08/10/2019
Logger: Michael, Ashelford
Project Number: 10035157.2
Date Completed: 08/10/2019
Editor: NA
Project Location: 758-840 Mamre Road
Weather Conditions: NA

Method	Water Level	Depth (mbgl)	Material Type	USCS Class	Description	Moisture	PID (ppm)	Sample ID	Observations / Comments	Construction Details	Well
Backhoe			Natural		(0.0-0.05 mBGL) SILT with fine sand, limited topsoil or covering old grass and fines.				Lightly friable soil, fine sand, roots	Backfilled with native material	
		0.1			(0.05-0.8 mBGL) Transition over 0.2 m to clay to homogeneous orange, some light grey interbeds, natural.			TP115 @ 0.1	Rootlets present, No odors,No staining, No PACM observed.		
		0.2					0.1	TP115 @ 0.2			
		0.3									
		0.4									
		0.5					0.0	TP115 @ 0.5			
		0.6									
		0.7									
		0.8			Homogeneous orange clay, natural material.				Remnant vegetation roots still intact at 1.0 m		
		0.9									
		1.0					0.0	TP115 @ 1.0			
		1.1			End of hole at 1.0 mBGL.						

Drilling Co.: Ken Coles
Driller: NA
Drilling Method: Backhoe
Drilling Fluid: None
Remarks: m = metre; cm = centimetre; BGL = below ground level; EOH = end of hole; BTOC = below top of casing; ppm = parts per million; NA = not applicable / available. Asbestos samples @ 0.1 and 1.5 mBGL.

Sampling Method: NA
Sampling Interval: NA
Water Level Start (mBTOC): NA
Water Level Finish (mBTOC): NA
Converted to Well: ☐ Yes ☒ No
Top of Well Casing Elev (M): NA
North Coor: NA
East Coor: NA

10035157.2 MIRVAC D:\1. GINT BORING LOGS\AUS\10035157.2 MIRVAC_10162019\10035157.2\MIRVAC P.GPJ 10035157.2 MIRVAC.GDT 23/10/19

Borehole Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	**HA15B**
Project Number:	**10035157**
Hole Depth:	**0.80 m**
Sheet:	**1 of 1**

Project Name:	**Aspect Industrial Estate - Environmental Works**	Date:	**29/11/2019**
Location / Site:	**Mamre Road, Kemps Creek NSW**	Ground Level :	**N/A**
Client:	**Mirvac Group**	Top of Casing :	**N/A**
Drilling Company:	**N/A**	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 PID ppm	Sample ID No.	Observations / Comments
HA		0 0 0 0 1 1 1				Fill	**FILL** - CLAY, brown / orange.	3.0 3.8 4.3 6.1 0.0	HA15B_0.05 HA15B_0.1 HA15B_0.6 HA15B_0.7 HA15B_0.8	Reworked natural. Mild-moderate hydrocarbon odour. Mild black staining. No PACM. Mild hydrocarbon odour at 0.7m. No-very mild hydrocarbon odour at 0.8m.
		1 1 1 1 1 1 2 2 2 2 2 2					**Terminated at 0.800 m** Unable to retrieve further samples.			

Additional Comments

Borehole down gradient of oil drum spill.

Strike Groundwater Level

Static Groundwater Level

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test	WB	Wash Bore
PCD	Polycrystalline Diamond		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack Palma** Date: **29/11/2019**
Checked By: Date:

ARCADIS2020 10035157 KEMPS CREEK.GPJ ARCADIS.GDT 3/4/20 5:34:08 PM - drawn by laurie white at www.reumad.com.au

Borehole Log

ARCADIS Design & Consultancy for natural and built assets

Hole ID.	**HA15C**
Project Number:	**10035157**
Hole Depth:	**0.20 m**
Sheet:	**1 of 1**

Project Name:	**Aspect Industrial Estate - Environmental Works**	Date:	**29/11/2019**
Location / Site:	**Mamre Road, Kemps Creek NSW**	Ground Level :	**N/A**
Client:	**Mirvac Group**	Top of Casing :	**N/A**
Drilling Company:	**N/A**	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 PID ppm	Sample ID No.	Observations / Comments
HA		0				Fill	**FILL** - Topsoil. Clayey SILT, brown, stiff, compacted.	0.1	HA15C_0.05	Reworked natural. No odour. No staining. No PACM.
							Terminated at 0.200 m Refusal on compacted clays.	0.1	HA15C_0.2	

0 0 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2

Additional Comments

Borehole down gradient of oil drum and approximately 0.5m lower.

Strike Groundwater Level

Static Groundwater Level

Method

HA	Hand Auger	MR	Mud Rotary
CC	Concrete Corer	PT	Push Tube
CB	Concrete Breaker	AH	Air Hammer
SFA	Solid Flight Auger	EX	Excavator
HFA	Hollow Flight Auger	DC	Diamond Coring
SPT	Standard Penetometer Test	WB	Wash Bore
PCD	Polycrystalline Diamond		

REUMAD

Log Drawn By: Laurie White
Contact: laurie.white@reumad.com.au

Logged By: **Jack Palma** Date: **29/11/2019**
Checked By: Date:

ARCADIS2020 10035157 KEMPS CREEK.GPJ ARCADIS.GDT 3/4/20 5:34:09 PM - drawn by laurie white at www.reumad.com.au

APPENDIX E – CALIBRATION RECORDS

PID field calibration – 8.10.19
YSI field calibration – 16.11.19
YSI and PID field calibration – 26.11.19
PID and YSI external calibration certifications Sept 2019

Tiger PID
Calibration Booklet

ARCADIS Design & Consultancy for natural and built assets

Sn T-113364 - MA	Sn 107544 - TK
Date: 8/10/2019 Time: 0652 Project No: 10035157 Project Name: Minvac - Kemps Creek **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** 0.0 ppm **Gas Reading after Calibation:** 101.6 ppm Personnel: Mike Ashelford Signed:	Date: 8/10/2019 Time: 0658 Project No: 10035157 Project Name: Minvac - Kemps Creek **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** 0.0 ppm **Gas Reading after Calibation:** 100.8 ppm Personnel: Mike Ashelford Signed:
Date: 8/10/2019 Time: ~~0651~~ 1703 Project No: 10035157 Project Name: Minvac - Kemps Creek **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** 0.0 ppm **Gas Reading after Calibation:** 101.8 → 100.4 ppm Personnel: Mike Ashelford Signed:	Date: 8/10/2019 Time: 1723 Project No: 10035157 Project Name: Minvac - Kemps Creek **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** 0.0 ppm **Gas Reading after Calibation:** 101.2 → 100.8 ppm Personnel: Mike Ashelford Signed:
Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:	Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:
Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:	Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:

ARCADIS Design & Consultancy for natural and built assets

YSI Professional Plus

Calibration Booklet

Project Name: Mirvac - Kemps Creek

Project Number: 10035157.1

Date: 16.10.19	Time: 0650	
pH	Buffer 1: *pH 4*	Buffer 2: *pH 7*
Reading: 4.05, 4.04	7.13, 7.04	(Pass) Fail
Cond.	Temp: 16.0	2760 µS/cm @25˚C
Reading 2290 - 2286		(Pass) Fail
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*	
Reading: 0.0		(Pass) Fail
ORP	Temp: 16.0	Zobel Reagent A&B
Reading: 245		(Pass) Fail
Personnel: Mike Ashelford		
Signed:		

Date: 24.10.19	Time: 1520	
pH	Buffer 1: *pH 4*	Buffer 2: *pH 7*
Reading: 7.06, 3.96		(Pass) Fail
Cond.	Temp: 26.5	2760 µS/cm @25˚C
Reading 1467 (1440-1467)		(Pass) Fail
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*	
Reading: 0.0		(Pass) Fail
ORP	Temp: 26.5	Zobel Reagent A&B
Reading: 229		(Pass) Fail
Personnel: Mike Ashelford		
Signed:		

Date:	Time:	
pH	Buffer 1: *pH 4*	Buffer 2: *pH 7*
Reading:		**Pass** **Fail**
Cond.	Temp:	2760 µS/cm @25˚C
Reading		**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*	
Reading:		**Pass** **Fail**
ORP	Temp:	Zobel Reagent A&B
Reading:		**Pass** **Fail**
Personnel:		
Signed:		

Date:	Time:	
pH	Buffer 1: *pH 4*	Buffer 2: *pH 7*
Reading:		**Pass** **Fail**
Cond.	Temp:	2760 µS/cm @25˚C
Reading		**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*	
Reading:		**Pass** **Fail**
ORP	Temp:	Zobel Reagent A&B
Reading:		**Pass** **Fail**
Personnel:		
Signed:		

Date:	Time:	
pH	Buffer 1: *pH 4*	Buffer 2: *pH 7*
Reading:		**Pass** **Fail**
Cond.	Temp:	2760 µS/cm @25˚C
Reading		**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*	
Reading:		**Pass** **Fail**
ORP	Temp:	Zobel Reagent A&B
Reading:		**Pass** **Fail**
Personnel:		
Signed:		

Date:	Time:	
pH	Buffer 1: *pH 4*	Buffer 2: *pH 7*
Reading:		**Pass** **Fail**
Cond.	Temp:	2760 µS/cm @25˚C
Reading		**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*	
Reading:		**Pass** **Fail**
ORP	Temp:	Zobel Reagent A&B
Reading:		**Pass** **Fail**
Personnel:		
Signed:		

Date:	Time:	
pH	Buffer 1: *pH 4*	Buffer 2: *pH 7*
Reading:		**Pass** **Fail**
Cond.	Temp:	2760 µS/cm @25˚C
Reading		**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*	
Reading:		**Pass** **Fail**
ORP	Temp:	Zobel Reagent A&B
Reading:		**Pass** **Fail**
Personnel:		
Signed:		

Date:	Time:	
pH	Buffer 1: *pH 4*	Buffer 2: *pH 7*
Reading:		**Pass** **Fail**
Cond.	Temp:	2760 µS/cm @25˚C
Reading		**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*	
Reading:		**Pass** **Fail**
ORP	Temp:	Zobel Reagent A&B
Reading:		**Pass** **Fail**
Personnel:		
Signed:		

Instructions:

Please fill in all blank items.

Circle either Pass or Fail based on the YSI response.

ARCADIS Design & Consultancy for natural and built assets

YSI Professional Plus
Calibration Booklet

Project Name:
Project Number:

Date: 27/11/19		Time: 07:15		Date: 28/11/19		Time: 08:00	
pH	Buffer 1:	*pH 4*	Buffer 2: *pH 7*	**pH**	Buffer 1:	*pH 4*	Buffer 2: *pH 7*
Reading: 7.11, 4.03			**Pass** **Fail**	Reading: 7.02			**Pass** **Fail**
Cond.	Temp: 16.8		2760 µS/cm @25˚C	**Cond.**	Temp: 17.5		2760 µS/cm @25˚C
Reading 2045			**Pass** **Fail**	Reading 2111			**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*			**DO:**	*Sodium Sulphite for Zero DO2 (2g/100mL)*		
Reading: 0.0			**Pass** **Fail**	Reading: 0.0			**Pass** **Fail**
ORP	Temp: 16.8		Zobel Reagent A&B	**ORP**	Temp: 17.5		Zobel Reagent A&B
Reading: 247			**Pass** **Fail**	Reading: 224			**Pass** **Fail**
Personnel: Jack Palm				Personnel: Jack Palm			
Signed:				Signed:			
Date:		Time:		Date:		Time:	
pH	Buffer 1:	*pH 4*	Buffer 2: *pH 7*	**pH**	Buffer 1:	*pH 4*	Buffer 2: *pH 7*
Reading:			**Pass** **Fail**	Reading:			**Pass** **Fail**
Cond.	Temp:		2760 µS/cm @25˚C	**Cond.**	Temp:		2760 µS/cm @25˚C
Reading			**Pass** **Fail**	Reading			**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*			**DO:**	*Sodium Sulphite for Zero DO2 (2g/100mL)*		
Reading:			**Pass** **Fail**	Reading:			**Pass** **Fail**
ORP	Temp:		Zobel Reagent A&B	**ORP**	Temp:		Zobel Reagent A&B
Reading:			**Pass** **Fail**	Reading:			**Pass** **Fail**
Personnel:				Personnel:			
Signed:				Signed:			
Date:		Time:		Date:		Time:	
pH	Buffer 1:	*pH 4*	Buffer 2: *pH 7*	**pH**	Buffer 1:	*pH 4*	Buffer 2: *pH 7*
Reading:			**Pass** **Fail**	Reading:			**Pass** **Fail**
Cond.	Temp:		2760 µS/cm @25˚C	**Cond.**	Temp:		2760 µS/cm @25˚C
Reading			**Pass** **Fail**	Reading			**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*			**DO:**	*Sodium Sulphite for Zero DO2 (2g/100mL)*		
Reading:			**Pass** **Fail**	Reading:			**Pass** **Fail**
ORP	Temp:		Zobel Reagent A&B	**ORP**	Temp:		Zobel Reagent A&B
Reading:			**Pass** **Fail**	Reading:			**Pass** **Fail**
Personnel:				Personnel:			
Signed:				Signed:			
Date:		Time:		Date:		Time:	
pH	Buffer 1:	*pH 4*	Buffer 2: *pH 7*	**pH**	Buffer 1:	*pH 4*	Buffer 2: *pH 7*
Reading:			**Pass** **Fail**	Reading:			**Pass** **Fail**
Cond.	Temp:		2760 µS/cm @25˚C	**Cond.**	Temp:		2760 µS/cm @25˚C
Reading			**Pass** **Fail**	Reading			**Pass** **Fail**
DO:	*Sodium Sulphite for Zero DO2 (2g/100mL)*			**DO:**	*Sodium Sulphite for Zero DO2 (2g/100mL)*		
Reading:			**Pass** **Fail**	Reading:			**Pass** **Fail**
ORP	Temp:		Zobel Reagent A&B	**ORP**	Temp:		Zobel Reagent A&B
Reading:			**Pass** **Fail**	Reading:			**Pass** **Fail**
Personnel:				Personnel:			
Signed:				Signed:			

Instructions:
Please fill in all blank items.
Circle either Pass or Fail based on the YSI response.

Tiger PID
Calibration Booklet

ARCADIS Design & Consultancy for natural and built assets

Date: 27/11/19 Time: 09:00 Project No: 10035157 Project Name: Murrae hemps DSI **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** 0.0 ppm **Gas Reading after Calibation:** 100.9 ppm Personnel: Jack Palmer Signed:	Date: 28/11/19 Time: 07:35 Project No: 10035157 Project Name: Murrae hemps DSI **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** 0.0ppm **Gas Reading after Calibation:** 101.3 ppm Personnel: Jack Palmer Signed:
Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:	Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:
Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:	Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:
Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:	Date: Time: Project No: Project Name: **Calibration Gas:** Isobutylene **Calibrated to:** 100ppm **Air Reading:** **Gas Reading after Calibation:** Personnel: Signed:

Multi Parameter Water Meter

Instrument YSI Quatro Pro Plus
Serial No. 11C100763

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		320613	pH 6.99
2. pH 4.00		pH 4.00		330734	pH 4.17
3. pH 10.00		pH 10.00		324189	pH 9.62
3. mV		231.8mV		338782/337308	235mV
4. EC		2.76 mS		333787	2.75mS
5. D.O		0.00ppm		329994	0.07ppm
6. Temp		20.6°C		MultiTherm	20.7°C

Calibrated by: Sarah Lian **Sarah Lian**

Calibration date: **26/11/2019**

Next calibration due: **26/12/2019**

PID Calibration Certificate

Instrument **PhoCheck Tiger**
Serial No. **T-113988**

airmet

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments			
Battery	Charge Condition	✓				
	Fuses	✓				
	Capacity	✓				
	Recharge OK?	✓				
Switch/keypad	Operation	✓				
Display	Intensity	✓				
	Operation (segments)	✓				
Grill Filter	Condition	✓				
	Seal	✓				
Pump	Operation	✓				
	Filter	✓				
	Flow	✓				
	Valves, Diaphragm	✓				
PCB	Condition	✓				
Connectors	Condition	✓				
Sensor	PID	✓	10.6ev			
Alarms	Beeper	✓	**Low**	**High**	**TWA**	**STEL**
	Settings	✓	50ppm	100ppm	N/A	N/A
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	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp		92ppm Isobutylene		SY245		91.8ppm

Calibrated by: **Sarah Lian**

Calibration date: **26/11/2019**

Next calibration due: **24/05/2020**

AirMet Scientific P/L
Level 3, 18-26 Dickson Avenue
Artarmon
NSW 2064, Australia
Tel: 02 8425 8300
Fax: 02 8425 8399

Calibration Certificate

This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 21-Sep-2019
Calibration Date: 21-Sep-2019
Next Calibration Due: 19-Mar-2020

Call ID / Order No: 239188
Job No / Pack No: S2391880001

Customer: Arcadis Australia Pacific Pty Ltd-ID 207447
Serial No: T-107544
Description: Ion Science Instrument

Calibration Summary

Frequency: 180 Days
Temp: 22°C
Humidity: 45%
As Found: In Tolerance
Certificate: S2391880001
Result: Pass

Desc	As Found Actual	As Found Result	As Left (Cal Status) Actual	As Left (Cal Status) Result
ISOBUTYLENE 100ppm	98.4	Pass	101.7	Pass
ISOBUTYLENE 1000ppm	1024.0	Pass	1005.2	Pass

Standard Used

Equip ID	Description	Valid Until	Cert
SY274	Zero Grade Air 20.9%VOL O2, N2 Balance	31-07-2024	400284707
SY235	ISOBUTYLENE 1000PPM, AIR BALANCE	02-11-2021	BU70910-072518
SY276	ISOBUTYLENE 100PPM AIR Balance	03-07-2024	400284906

Completed By: Jason Cheng

Signed:

eDoc V1R0

Calibration Certificate

AirMet Scientific P/L
Level 3, 18-26 Dickson Avenue
Artarmon
NSW 2064, Australia
Tel: 02 8425 8300
Fax: 02 8425 8399

This document certifies that the instrument detailed has been calibrated to the parameters

Certificate Print Date: 21-Sep-2019
Calibration Date: 21-Sep-2019
Next Calibration Due: 19-Mar-2020

Call ID / Order No: 239188
Job No / Pack No: S2391880003

Customer: Arcadis Australia Pacific Pty Ltd-ID 207447
Serial No: T-113364
Description: PhoCheck Tiger Li-ion Battery Battery Charger

Calibration Summary

Frequency: 180 Days
Temp: 22°C
Humidity: 45%
As Found: Out of Tolerance
Certificate: S2391880003
Result: Pass

Desc	As Found Actual	As Found Result	As Left (Cal Status) Actual	As Left (Cal Status) Result
ISOBUTYLENE 100ppm	74.6	Fail	99.6	Pass
ISOBUTYLENE 1000ppm	810.6	Fail	1017.0	Pass

Standard Used

Equip ID	Description	Valid Until	Cert
SY274	Zero Grade Air 20.9%VOL O2, N2 Balance	31-07-2024	400284707
SY235	ISOBUTYLENE 1000PPM, AIR BALANCE	02-11-2021	BU70910-072518
SY276	ISOBUTYLENE 100PPM AIR Balance	03-07-2024	400284906

Completed By: Jason Cheng

Signed:

eDoc V1R0

APPENDIX F – TABULATED RESULTS

Table 1 – Sediment analytical results

Table 2 – Waste classification analytical results

Table 3 – Potential Asbestos analytical results

Table 4 – Hydraulic conductivity

Table 5 – Soil analytical results

Table 6 – Surface water analytical results

Table 7 – Groundwater analytical results

Table 8 – Soil QA/QC results

Table 9 – Water QA/QC results

		Inorganics		Metals								TPH					TRH							BTEX			
		%		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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		1		2	0.4	5	5	5	0.1	5	5	20	20	50	50	50	20	20	50	50	100	100	100	0.1	0.1	0.1	0.2
ANZG (2018) Interim Sediment Quality Guideline Trigger Values - ISQ(				70	10	370	270	220	1	52	410																
ANZG (2018) Interim Sediment Quality Guideline Trigger Values - ISQ(				20	1.5	80	65	50	0.15	21	200																
Field_ID	**Sampled_Date_Time**																										
DS01	27/11/2019	25	0.8	22	<0.4	66	23	40	<0.1	12	32	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
DS02	27/11/2019	28	0.7	21	<0.4	51	23	36	<0.1	11	38	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
QA5	27/11/2019	30	0.5	14	<0.4	42	32	53	<0.1	12	41	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
QA6	27/11/2019	27.4	<0.5	11	<1	35	19	24	<0.1	7	25	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5
DS03	27/11/2019	27	0.8	14	<0.4	33	40	31	<0.1	19	77	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
DS04	27/11/2019	25	0.5	13	<0.4	28	35	26	<0.1	13	48	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
DS05	27/11/2019	25	1.3	8.6	<0.4	22	59	21	<0.1	41	120	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
Statistical Summary																											
Number of Results		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Number of Detects		7	6	7	0	7	7	7	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration		25	<0.5	8.6	<0.4	22	19	21	<0.1	7	25	<10	<20	<50	<50	<50	<10	<10	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.2
Minimum Detect		25	0.5	8.6	ND	22	19	21	ND	7	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration		30	1.3	22	<1	66	59	53	<0.1	41	120	<20	<50	<100	<100	<50	<20	<20	<50	<50	<100	<100	<100	<0.2	<0.5	<0.5	<0.5
Maximum Detect		30	1.3	22	ND	66	59	53	ND	41	120	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration		27	0.69	15	0.24	40	33	33	0.05	16	54	9.3	12	29	29	25	9.3	9.3	25	25	50	50	46	0.057	0.079	0.079	0.12
Median Concentration		27	0.7	14	0.2	35	32	31	0.05	12	41	10	10	25	25	25	10	10	25	25	50	50	50	0.05	0.05	0.05	0.1
Standard Deviation		1.9	0.33	5	0.11	15	14	11	0	11	33	1.9	5.7	9.4	9.4	0	1.9	1.9	0	0	0	0	9.4	0.019	0.076	0.076	0.057
Number of Guideline Exceedances		0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects		0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Description

NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil:Management limits are applied after consideration of relevant ESLs and HSLs

Env Stds Comments

#1:Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate (refer Shedule B7).
#2:Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-specific bioavailability should be considered where appropriate.
#3:Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be considered if elemental mercury is present, or suspected to be present.
#4:Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each carc. PAH in sample by its BaP TEF (ref Table 1A(1)) & summing
#5:Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs (should meet BaP TEQ HIL) & napthalene (should meet relevant HSL)
#6:PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure to all PCBs (inc dioxin like PCBs) should be undertaken
#7:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#8:Derived soil HSL exceeds soil saturation concentraiton
#9:Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#10:Moderate reliability. To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#11:Separate management limits for BTEX & napthalene are not available hence should not be subtracted from the relevant fractions to obtain F1 & F2

				PAH																				PCBs				
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.5	0.5	0.5
ANZG (2018) Interim Sediment Quality Guid																							50000					
ANZG (2018) Interim Sediment Quality Guid																							10000					
Field_ID	**Sampled_Date_Time**																											
DS01	27/11/2019	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5
DS02	27/11/2019	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5
QA5	27/11/2019	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5
QA6	27/11/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
DS03	27/11/2019	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5
DS04	27/11/2019	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5
DS05	27/11/2019	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5
Statistical Summary																												
Number of Results		7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6	6	6	6	6
Number of Detects		0	0	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration		<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5
Minimum Detect		ND	ND	ND	ND	ND	ND	ND	ND	0.6	1.2	ND	ND	ND	ND	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	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5
Maximum Detect		ND	ND	ND	ND	ND	ND	ND	ND	0.6	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration		0.079	0.16	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	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	0.05	0.25	0.25	0.25
Median Concentration		0.05	0.15	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	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	0.05	0.25	0.25	0.25
Standard Deviation		0.076	0.038	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
Number of Guideline Exceedances(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

Env Stds Description

NEPM 2013 Table 1B(7) Management Limits

Env Stds Comments

#1:Arsenic: HIL assumes 70% oral bioavailab
#2:Lead: HILs A,B,C based on blood lead mo
#3:Elemental mercury: HIL does not address
#4:Carcinogenic PAHs: HIL based on 8 carc. I
#5:Total PAHs: Based on sum of 16 most cor
#6:PCBs: HIL refers to non-dioxin like PCBs c
#7:To obtain F1 subtract the sum of BTEX cc
#8:Derived soil HSL exceeds soil saturation c
#9:Moderate reliability. To obtain F1 subtrac
#10:Moderate reliability. To obtain F2 subtra
#11:Separate management limits for BTEX &

					Organochlorine Pesticides																							
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.1	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	0.2	1
ANZG (2018) Interim Sediment Quality Guic							7			9												60		1.4				
ANZG (2018) Interim Sediment Quality Guic							2.8			4.5												2.7		0.9				
Field_ID	**Sampled_Date_Time**																											
DS01	27/11/2019	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<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	<0.2	<1
DS02	27/11/2019	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<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	<0.2	<1
QA5	27/11/2019	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<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	<0.2	<1
QA6	27/11/2019	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-
DS03	27/11/2019	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<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	<0.2	<1
DS04	27/11/2019	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<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	<0.2	<1
DS05	27/11/2019	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<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	<0.2	<1
Statistical Summary																												
Number of Results		6	6	7	7	7	7	7	7	7	1	1	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	6
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
Minimum Concentration		<0.5	<0.5	<0.1	<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	<0.05	<0.05	<0.05	<0.05	<0.2	<1
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
Maximum Concentration		<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<1
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
Average Concentration		0.25	0.25	0.22	0.025	0.025	0.025	0.025	0.025	0.046			0.025	0.025	0.025	0.036	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.1	0.5
Median Concentration		0.25	0.25	0.25	0.025	0.025	0.025	0.025	0.025	0.05	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	0.1	0.5
Standard Deviation		0	0	0.076	0	0	0	0	0	0.0094			0	0	0	0.028	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
Number of Guideline Exceedances(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

Env Stds Description

NEPM 2013 Table 1B(7) Management Limits

Env Stds Comments

#1:Arsenic: HIL assumes 70% oral bioavailab
#2:Lead: HILs A,B,C based on blood lead mo
#3:Elemental mercury: HIL does not address
#4:Carcinogenic PAHs: HIL based on 8 carc. I
#5:Total PAHs: Based on sum of 16 most cor
#6:PCBs: HIL refers to non-dioxin like PCBs c
#7:To obtain F1 subtract the sum of BTEX cc
#8:Derived soil HSL exceeds soil saturation c
#9:Moderate reliability. To obtain F1 subtrac
#10:Moderate reliability. To obtain F2 subtra
#11:Separate management limits for BTEX &

				Organophosphorous Pesticides																								
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.2	0.2	0.05	0.05	0.2	0.2	0.2	2	0.2	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2
ANZG (2018) Interim Sediment Quality Guid																												
ANZG (2018) Interim Sediment Quality Guid																												
Field_ID	**Sampled_Date_Time**																											
DS01	27/11/2019	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2
DS02	27/11/2019	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2
QA5	27/11/2019	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.4	<0.2
QA6	27/11/2019	-	-	<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	-	<0.2
DS03	27/11/2019	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2
DS04	27/11/2019	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2
DS05	27/11/2019	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2
Statistical Summary																												
Number of Results		6	6	7	6	1	1	7	7	7	6	6	6	1	7	7	7	6	6	7	6	1	6	7	6	7	6	7
Number of Detects		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Minimum Concentration		<0.2	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.2	<0.05	<0.2	<0.05	<0.2	<0.05	<0.4	<0.2
Minimum Detect		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration		<0.2	<0.2	<0.2	<0.2	<0.05	<0.05	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.05	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.05	<0.2	<0.2	<0.2	<0.2	<1	<0.2
Maximum Detect		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration		0.1	0.1	0.089	0.1			0.089	0.089	0.089	1	0.1	0.1		0.089	0.089	0.089	0.12	0.1	0.089	0.1		0.1	0.089	0.1	0.089	0.45	0.1
Median Concentration		0.1	0.1	0.1	0.1	0.025	0.025	0.1	0.1	0.1	1	0.1	0.1	0.025	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.025	0.1	0.1	0.1	0.1	0.5	0.1
Standard Deviation		0	0	0.028	0			0.028	0.028	0.028	0	0	0		0.028	0.028	0.028	0.041	0	0.028	0		0	0.028	0	0.028	0.12	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
Number of Guideline Exceedances(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

Env Stds Description

NEPM 2013 Table 1B(7) Management Limits

Env Stds Comments

#1:Arsenic: HIL assumes 70% oral bioavailab
#2:Lead: HILs A,B,C based on blood lead mo
#3:Elemental mercury: HIL does not address
#4:Carcinogenic PAHs: HIL based on 8 carc. I
#5:Total PAHs: Based on sum of 16 most cor
#6:PCBs: HIL refers to non-dioxin like PCBs c
#7:To obtain F1 subtract the sum of BTEX cc
#8:Derived soil HSL exceeds soil saturation c
#9:Moderate reliability. To obtain F1 subtrac
#10:Moderate reliability. To obtain F2 subtra
#11:Separate management limits for BTEX &

															Pesticides	Herbicides	Halogenated Benzenes
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg
EQL		0.2	0.2	2	2	0.2	0.2	0.05	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	50
ANZG (2018) Interim Sediment Quality Guid																	
ANZG (2018) Interim Sediment Quality Guid																	
Field_ID	**Sampled_Date_Time**																
DS01	27/11/2019	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
DS02	27/11/2019	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
QA5	27/11/2019	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
QA6	27/11/2019	-	-	<0.2	-	<0.2	-	<0.05	-	<0.05	-	-	-	-	-	-	<50
DS03	27/11/2019	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
DS04	27/11/2019	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
DS05	27/11/2019	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
Statistical Summary																	
Number of Results		6	6	7	6	7	6	1	6	1	6	6	6	6	6	6	7
Number of Detects		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration		<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.05	<0.2	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
Minimum Detect		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration		<0.2	<0.2	<2	<2	<0.2	<0.2	<0.05	<0.2	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
Maximum Detect		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration		0.1	0.1	0.87	1	0.1	0.1		0.1		0.1	0.1	0.1	0.1	0.1	0.1	25
Median Concentration		0.1	0.1	1	1	0.1	0.1	0.025	0.1	0.025	0.1	0.1	0.1	0.1	0.1	0.1	25
Standard Deviation		0	0	0.34	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
Number of Guideline Exceedances(Detects		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Description

NEPM 2013 Table 1B(7) Management Limits

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			Inorganics		Metals								TPH					TRH							BTEX							PAH												
			Moisture Content	TOC	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	C6-C10	>C6-C10 less BTEX (F1)	C10-C16	>C10-C16 less Naphthalene (F2)	C16-C34	C34-C40	>C10 - C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(g,h,i)perylene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Chrysene
			%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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			1	0.1	2	0.4	5	5	5	0.1	5	5	20	20	50	50	50	20	20	50	50	100	100	100	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)					100	20			100	4	40		650				10000								10	288	600			1000						0.8								
NSW 2014 General Solid Waste SCC1 (with leached)					500	100			1500	50	1050		6500				10000								18	518	1080			1800						10								
NSW 2014 Restricted Solid Waste CT2 (No Leaching)					400	80			400	16	160		2600				40000								40	1152	2400			4000						3.2								
NSW 2014 Restricted Solid Waste SCC2 (with leached)					2000	400			6000	200	4200		2600				40000								72	2073	4320			7200						23								
Field_ID	Location_Code	Sampled_Date_Time																																										
ASB01		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB02		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB03		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB04		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS01	DS01	27/11/2019	25	0.8	22	<0.4	66	23	40	<0.1	12	32	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
DS02	DS02	27/11/2019	28	0.7	21	<0.4	51	23	36	<0.1	11	38	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
DS03	DS03	27/11/2019	27	0.8	14	<0.4	33	40	31	<0.1	19	77	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
DS04	DS04	27/11/2019	25	0.5	13	<0.4	28	35	26	<0.1	13	48	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
DS05	DS05	27/11/2019	25	1.3	8.6	<0.4	22	59	21	<0.1	41	120	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
HA01B-0.05	HA01B	27/11/2019	6.3	-	-	-	-	45	-	-	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01B-0.2	HA01B	27/11/2019	10	-	-	-	-	43	-	-	-	83	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	HA06B	27/11/2019	8	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	HA06B	27/11/2019	9.8	-	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.05	HA15B	27/11/2019	9	-	-	-	-	-	-	-	-	-	<20	79	1100	360	1539	<20	<20	210	210	1300	290	1800	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.15	HA15B	27/11/2019	16	-	-	-	-	-	-	-	-	-	<20	280	1300	330	1910	<20	<20	620	620	1200	280	2100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.6	HA15B	27/11/2019	18	-	-	-	-	-	-	-	-	-	<20	830	2200	260	3290	<20	<20	1400	1396.6	1800	220	3420	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.8	HA15B	27/11/2019	15	-	-	-	-	-	-	-	-	-	<20	50	260	84	394	<20	<20	99	99	270	<100	369	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.05	HA15C	27/11/2019	11	-	-	-	-	-	-	-	-	-	<20	<20	54	73	127	<20	<20	<50	<50	100	<100	100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.2	HA15C	27/11/2019	16	-	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.05	HA18B	27/11/2019	10	-	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.2	HA18B	27/11/2019	11	-	-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW01_0.2	MW01	8/10/2019	20	-	15	<0.4	22	31	27	<0.1	22	99	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW01_2	MW01	8/10/2019	16	-	6.5	<0.4	19	19	18	<0.1	11	25	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW02_0.2	MW02	8/10/2019	14	-	8.1	<0.4	26	23	18	<0.1	12	36	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW02_1	MW02	8/10/2019	10	-	8.9	<0.4	26	24	22	<0.1	21	42	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW02_2.0	MW02	8/10/2019	16	-	18	<0.4	50	29	42	<0.1	19	55	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	0.6	1.6	1.5	2.6	2.6	2.6	0.9	1	1.4	1.3
MW03_0.2	MW03	9/10/2019	16	-	7.7	<0.4	18	27	15	<0.1	9.6	43	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW03_1.2	MW03	9/10/2019	13	-	5.2	<0.4	13	30	41	<0.1	9.7	42	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW04_0.2	MW04	9/10/2019	20	-	11	<0.4	27	24	18	<0.1	11	34	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW04_2	MW04	9/10/2019	10	-	8.2	<0.4	13	20	6.8	<0.1	<5	28	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW05_0.2	MW05	8/10/2019	20	-	10	<0.4	28	19	20	<0.1	9.6	28	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW05_1	MW05	9/10/2019	21	-	7.8	<0.4	18	17	14	<0.1	5.8	21	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW06_0.2	MW06	9/10/2019	19	-	4	<0.4	16	28	12	<0.1	13	52	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
MW06_0.5	MW06	9/10/2019	16	-	3.6	<0.4	13	26	10	<0.1	11	50	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
QA001_TK	MW02	8/10/2019	16	-	10	<0.4	24	17	24	<0.1	11	33	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
QA002_TK	MW02	9/10/2019	16.5	-	10	<1	33	22	29	<0.1	14	35	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
QA1	TP104	8/10/2019	10	-	5.3	<0.4	18	35	14	<0.1	20	71	<20	29	91	110	230	<20	<20	<50	<50	160	130	290	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
QA2	TP104	8/10/2019	10.2	-	<5	<1	29	35	13	<0.1	20	62	<10	<50	140	<100	140	<10	<10	<50	<50	160	<100	160	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
QA3	SO05	27/11/2019	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA4	SO05	27/11/2019	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA5	DS02	27/11/2019	30	0.5	14	<0.4	42	32	53	<0.1	12	41	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
QA6	DS02	27/11/2019	27.4	<0.5	11	<1	35	19	24	<0.1	7	25	<10	<50	<100	<100	<50	<10	<10	<50	<50	<100	<100	<50	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
SO01		16/10/2019	14	-	10	<0.4	62	33	62	-	50	970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	SO01	27/11/2019	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO02	SO02	27/11/2019	8.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO03		16/10/2019	24	-	8.7	<0.4	22	57	32	-	11	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO03	SO03	27/11/2019	5.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04		16/10/2019	21	-	9.4	<0.4	19	23	24	-	9.3	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04	SO04	27/11/2019	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO05	SO05	27/11/2019	9.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101 - ASB_0.1	TP101	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101_0.2	TP101	8/10/2019	17	-	9.5	<0.4	17	16	20	<0.1	12	33	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP101_0.5	TP101	8/10/2019	21	-	18	<0.4	24	39	20	<0.1	12	47	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP102 - ASB_0.1	TP102	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102_0.2	TP102	8/10/2019	14	-	11	<0.4	21	31	27	<0.1	10	47	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP102_0.5	TP102	8/10/2019	16	-	5.5	<0.4	16	17	12	<0.1	8	21	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP103 - ASB_0.1	TP103	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

			Inorganics		Metals								TPH					TRH							BTEX							PAH												
			Moisture Content	TOC	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	C6-C10	>C6-C10 less BTEX (F1)	C10-C16	>C10-C16 less Naphthalene (F2)	C16-C34	C34-C40	>C10 - C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	Total BTEX	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(g,h,i)perylene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Chrysene
			%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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			1	0.1	2	0.4	5	5	5	0.1	5	5	20	20	50	50	50	20	20	50	50	100	100	100	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)					100	20			100	4	40		650				10000								10	288	600			1000						0.8								
NSW 2014 General Solid Waste SCC1 (with leached)					500	100			1500	50	1050		6500				10000								18	518	1080			1800						10								
NSW 2014 Restricted Solid Waste CT2 (No Leaching)					400	80			400	16	160		2600				40000								40	1152	2400			4000						3.2								
NSW 2014 Restricted Solid Waste SCC2 (with leached)					2000	400			6000	200	4200		2600				40000								72	2073	4320			7200						23								
Field_ID	**Location_Code**	**Sampled_Date_Time**																																										
TP103_0.2	TP103	8/10/2019	15	-	9.4	<0.4	25	15	21	<0.1	9.6	27	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP103_1	TP103	8/10/2019	16	-	5.7	<0.4	14	18	16	<0.1	9.2	24	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP104 - ASB_0.1	TP104	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104_0.2	TP104	8/10/2019	10	-	4.1	<0.4	18	28	11	<0.1	18	54	<20	<20	120	160	280	<20	<20	<50	<50	220	180	400	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP104_1	TP104	8/10/2019	12	-	4.2	<0.4	9.9	36	15	<0.1	8.7	54	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP105 - ASB_0.1	TP105	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105_0.2	TP105	8/10/2019	14	-	11	<0.4	18	15	28	<0.1	15	31	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP105_1	TP105	8/10/2019	17	-	7.4	<0.4	21	27	12	<0.1	15	38	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP106 - ASB_0.1	TP106	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.2	TP106	8/10/2019	15	-	14	<0.4	27	22	34	<0.1	14	53	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP106_0.5	TP106	8/10/2019	20	-	8	<0.4	23	27	18	<0.1	12	55	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP107 - ASB_0.1	TP107	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP107_0.2	TP107	8/10/2019	16	-	21	<0.4	46	21	30	<0.1	12	44	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP107_0.5	TP107	8/10/2019	19	-	7.1	<0.4	20	26	23	<0.1	<5	22	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP108 - ASB_0.1	TP108	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.2	TP108	8/10/2019	15	-	11	<0.4	34	12	23	<0.1	7.2	18	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP108_0.5	TP108	8/10/2019	16	-	11	<0.4	27	18	22	<0.1	8.3	22	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP109 - ASB_0.1	TP109	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109_0.2	TP109	8/10/2019	18	-	11	<0.4	34	16	23	<0.1	9.9	27	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP109_0.5	TP109	8/10/2019	21	-	13	<0.4	29	26	15	<0.1	11	41	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP110 - ASB_0.1	TP110	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110_0.2	TP110	8/10/2019	12	-	9.6	<0.4	26	23	19	<0.1	10	40	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP110_1	TP110	8/10/2019	17	-	7.3	<0.4	20	16	19	<0.1	7.8	27	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP111 - ASB_0.1	TP111	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP111_0.2	TP111	8/10/2019	20	-	13	<0.4	30	26	33	<0.1	15	55	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP111_0.5	TP111	8/10/2019	21	-	11	<0.4	22	29	20	<0.1	9.5	43	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP112 - ASB_0.1	TP112	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.2	TP112	8/10/2019	12	-	16	<0.4	26	24	19	<0.1	15	68	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP112_0.5	TP112	8/10/2019	15	-	19	<0.4	20	28	14	<0.1	24	68	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP113 - ASB_0.1	TP113	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113_0.2	TP113	8/10/2019	19	-	7.2	<0.4	12	45	13	<0.1	11	48	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP113_1	TP113	8/10/2019	18	-	7.4	<0.4	20	32	24	<0.1	15	44	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP114 - ASB_0.1	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114 - ASB_0.5	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114_0.2	TP114	8/10/2019	13	-	9.3	<0.4	15	30	20	<0.1	7.7	39	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP114_2	TP114	8/10/2019	17	-	9.2	<0.4	20	22	14	<0.1	8.6	29	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP115 - ASB_0.1	TP115	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115_0.2	TP115	8/10/2019	12	-	8.9	<0.4	24	8.9	22	<0.1	5.7	11	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
TP115_1	TP115	8/10/2019	22	-	13	<0.4	31	25	25	<0.1	7.4	25	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
Statistical Summary																																												
Number of Results			76	7	57	57	57	59	57	54	57	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	3	54	54	54	54	54	54	54	54	54	54	54	54
Number of Detects			76	6	56	0	57	59	57	0	55	63	0	5	8	7	8	0	0	4	4	8	5	8	0	0	0	0	0	0	0	0	0	1	1	1	1	54	54	1	1	1	1
Minimum Concentration			5.1	<0.5	3.6	<0.4	9.9	8.9	6.8	<0.1	<5	11	<10	<20	<50	<50	<50	<10	<10	<50	<50	<100	<100	<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5
Minimum Detect			5.1	0.5	3.6	ND	9.9	8.9	6.8	ND	5.7	11	ND	29	54	73	127	ND	ND	99	99	100	130	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	1.6	1.5	2.6	0.6	1.2	0.9	1	1.4	1.3
Maximum Concentration			30	1.3	22	<1	66	59	62	<0.1	50	970	<20	830	2200	360	3290	<20	<20	1400	1396.6	1800	290	3420	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.5	<0.5	0.6	1.6	1.5	2.6	2.6	2.6	0.9	1	1.4	1.3
Maximum Detect			30	1.3	22	ND	66	59	62	ND	50	970	ND	830	2200	360	3290	ND	ND	1400	1396.6	1800	290	3420	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.6	1.6	1.5	2.6	2.6	2.6	0.9	1	1.4	1.3
Average Concentration			16	0.69	10	0.22	26	27	23	0.05	13	64	9.8	31	110	46	154	9.8	9.8	62	62	130	64	186	0.052	0.06	0.06	0.11	0.06	0.16	0.1	0.25	0.25	0.26	0.28	0.27	0.29	0.64	1.2	0.26	0.26	0.27	0.27
Median Concentration			16	0.7	9.5	0.2	23	26	21	0.05	11	41	10	10	25	25	25	10	10	25	25	50	50	50	0.05	0.05	0.05	0.1	0.05	0.15	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	0.25	0.25	0.25	0.25
Standard Deviation			5.4	0.33	4.4	0.068	11	9.9	10	0	7.7	122	1.1	111	348	67	517	1.1	1.1	193	193	310	51	549	0.011	0.044	0.044	0.033	0.044	0.022	0	0	0	0.048	0.18	0.17	0.32	0.27	0.19	0.088	0.1	0.16	0.14
Number of Guideline Exceedances			0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Number of Guideline Exceedances(Detects Only)			0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0

												Phenols																				PCBs											
			Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	PAHs (Vic EPA List)	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-nitrophenol	2-methylphenol	3&4-Methylphenol (m&p-cresol)	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-nitrophenol	Dinoseb	Pentachlorophenol	Phenol	tetrachlorophenols	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	a-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.5	0.5	5	0.5	0.5	1	0.2	0.4	5	20	1	5	20	1	0.5	10	1	20	0.5	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05
NSW 2014 General Solid Waste CT1 (No Leaching)												8000	40							4000																			<50				
NSW 2014 General Solid Waste SCC1 (with leached)												14400	72							7200								518											<50				
NSW 2014 Restricted Solid Waste CT2 (No Leaching)												32000	160							16000																			<50				
NSW 2014 Restricted Solid Waste SCC2 (with leached)												57600	288							28800								2073											<50				
Field_ID	**Location_Code**	**Sampled_Date_Time**																																									
ASB01		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB02		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB03		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB04		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS01	DS01	27/11/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
DS02	DS02	27/11/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
DS03	DS03	27/11/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
DS04	DS04	27/11/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
DS05	DS05	27/11/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
HA01B-0.05	HA01B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01B-0.2	HA01B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	HA06B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	HA06B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.05	HA15B	27/11/2019	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.15	HA15B	27/11/2019	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.6	HA15B	27/11/2019	-	-	-	-	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.8	HA15B	27/11/2019	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.05	HA15C	27/11/2019	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.2	HA15C	27/11/2019	-	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.05	HA18B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.2	HA18B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW01_0.2	MW01	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
MW01_2	MW01	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_0.2	MW02	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
MW02_1	MW02	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_2.0	MW02	8/10/2019	0.6	3	<0.5	0.8	<0.5	1.9	2.9	17.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03_0.2	MW03	9/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
MW03_1.2	MW03	9/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04_0.2	MW04	9/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
MW04_2	MW04	9/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05_0.2	MW05	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
MW05_1	MW05	9/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
MW06_0.2	MW06	9/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
MW06_0.5	MW06	9/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA001_TK	MW02	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
QA002_TK	MW02	9/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05
QA1	TP104	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
QA2	TP104	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05
QA3	SO05	27/11/2019	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
QA4	SO05	27/11/2019	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	-	-	<2	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA5	DS02	27/11/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
QA6	DS02	27/11/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05
SO01		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	SO01	27/11/2019	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
SO02	SO02	27/11/2019	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
SO03		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO03	SO03	27/11/2019	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04	SO04	27/11/2019	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
SO05	SO05	27/11/2019	-	-	-	-	-	-	-	-	-	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101 - ASB_0.1	TP101	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101_0.2	TP101	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP101_0.5	TP101	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102 - ASB_0.1	TP102	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102_0.2	TP102	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP102_0.5	TP102	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP103 - ASB_0.1	TP103	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

											Phenols																					PCBs												
			Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	PAHs (Vic EPA List)	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-nitrophenol	2-methylphenol	3&4-Methylphenol (m&p-cresol)	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-nitrophenol	Dinoseb	Pentachlorophenol	Phenol	tetrachlorophenols	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	a-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.5	0.5	5	0.5	0.5	1	0.2	0.4	5	20	1	5	20	1	0.5	10	1	20	0.5	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05
NSW 2014 General Solid Waste CT1 (No Leaching)												8000	40							4000																			<50				
NSW 2014 General Solid Waste SCC1 (with leached)												14400	72							7200								518											<50				
NSW 2014 Restricted Solid Waste CT2 (No Leaching)												32000	160							16000																			<50				
NSW 2014 Restricted Solid Waste SCC2 (with leached)												57600	288							28800								2073											<50				
Field_ID	**Location_Code**	**Sampled_Date_Time**																																											
TP103_0.2	TP103	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP103_1	TP103	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104 - ASB_0.1	TP104	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104_0.2	TP104	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP104_1	TP104	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105 - ASB_0.1	TP105	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105_0.2	TP105	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP105_1	TP105	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106 - ASB_0.1	TP106	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.2	TP106	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP106_0.5	TP106	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP107 - ASB_0.1	TP107	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP107_0.2	TP107	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP107_0.5	TP107	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108 - ASB_0.1	TP108	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.2	TP108	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP108_0.5	TP108	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109 - ASB_0.1	TP109	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109_0.2	TP109	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP109_0.5	TP109	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110 - ASB_0.1	TP110	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110_0.2	TP110	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP110_1	TP110	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP111 - ASB_0.1	TP111	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP111_0.2	TP111	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP111_0.5	TP111	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112 - ASB_0.1	TP112	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.2	TP112	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP112_0.5	TP112	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113 - ASB_0.1	TP113	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113_0.2	TP113	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP113_1	TP113	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114 - ASB_0.1	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114 - ASB_0.5	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114_0.2	TP114	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP114_2	TP114	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115 - ASB_0.1	TP115	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115_0.2	TP115	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
TP115_1	TP115	8/10/2019	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																													
Number of Results			54	54	54	54	60	54	54	51	3	7	7	7	7	6	7	7	7	7	7	6	6	7	6	6	7	7	6	6	6	30	30	30	30	30	30	30	33	33	33	33	33
Number of Detects			1	1	0	1	1	1	1	1	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			<0.5	<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	<0.5	<0.5	<0.2	<0.4	<5	<20	<0.5	<5	<20	<1	<0.5	<10	<1	<20	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.05	<0.05	<0.05	<0.05
Minimum Detect			0.6	3	ND	0.8	3.4	1.9	2.9	17.5	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			0.6	3	<0.5	0.8	3.4	1.9	2.9	17.5	<0.5	<1	<1	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.5	<1	<5	<20	<1	<5	<20	<2	<0.5	<10	<1	<20	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05
Maximum Detect			0.6	3	ND	0.8	3.4	1.9	2.9	17.5	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			0.26	0.3	0.25	0.26	0.3	0.28	0.3	0.59	0.25	0.46	0.46	0.25	0.25	2.5	0.25	0.25	0.46	0.12	0.24	2.5	10	0.46	2.5	10	0.57	0.25	5	0.5	10	0.25	0.05	0.25	0.25	0.25	0.25	0.25	0.23	0.025	0.025	0.025	0.025
Median Concentration			0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	0.25	0.25	2.5	0.25	0.25	0.5	0.1	0.2	2.5	10	0.5	2.5	10	0.5	0.25	5	0.5	10	0.25	0.05	0.25	0.25	0.25	0.25	0.25	0.25	0.025	0.025	0.025	0.025
Standard Deviation			0.048	0.37	0	0.075	0.41	0.22	0.36	2.4	0	0.094	0.094	0	0	0	0	0	0.094	0.057	0.11	0	0	0.094	0	0	0.19	0	0	0	0	0	0	0	0	0	0	0	0.058	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
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

			Organochlorine Pesticides																																							
			b-BHC	chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	4,4-DDE	DDT	DDT+DDE+DDD	Endosulfan	Endrin ketone	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	Azinophos methyl	Bolstar (Sulprofos)	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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			0.05	0.1	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	0.2	1	0.1	0.1	0.2	0.2	0.05	0.05	0.2	0.2	0.2	2	0.2	0.2	0.05	0.2	0.2	0.2	0.2	0.2
NSW 2014 General Solid Waste CT1 (No Leaching)												60																				4										
NSW 2014 General Solid Waste SCC1 (with leached)												3																				7.5										
NSW 2014 Restricted Solid Waste CT2 (No Leaching)												240																				16										
NSW 2014 Restricted Solid Waste SCC2 (with leached)												432																				30										
Field_ID	Location_Code	Sampled_Date_Time																																								
ASB01		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB02		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB03		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB04		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS01	DS01	27/11/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
DS02	DS02	27/11/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	0.2	<0.2
DS03	DS03	27/11/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
DS04	DS04	27/11/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
DS05	DS05	27/11/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
HA01B-0.05	HA01B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01B-0.2	HA01B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	HA06B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	HA06B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.05	HA15B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.15	HA15B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.6	HA15B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.8	HA15B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.05	HA15C	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.2	HA15C	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.05	HA18B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.2	HA18B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW01_0.2	MW01	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
MW01_2	MW01	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_0.2	MW02	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
MW02_1	MW02	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_2.0	MW02	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03_0.2	MW03	9/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
MW03_1.2	MW03	9/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04_0.2	MW04	9/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
MW04_2	MW04	9/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05_0.2	MW05	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
MW05_1	MW05	9/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
MW06_0.2	MW06	9/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
MW06_0.5	MW06	9/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA001_TK	MW02	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
QA002_TK	MW02	9/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
QA1	TP104	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
QA2	TP104	8/10/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
QA3	SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA4	SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA5	DS02	27/11/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
QA6	DS02	27/11/2019	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	-	-	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-
SO01		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	SO01	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO02	SO02	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO03		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO03	SO03	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04	SO04	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO05	SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101 - ASB_0.1	TP101	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101_0.2	TP101	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP101_0.5	TP101	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102 - ASB_0.1	TP102	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102_0.2	TP102	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP102_0.5	TP102	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP103 - ASB_0.1	TP103	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

			Organochlorine Pesticides																																							
			b-BHC	chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	4,4-DDE	DDT	DDT+DDE+DDD	Endosulfan	Endrin ketone	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	Azinophos methyl	Bolstar (Sulprofos)	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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			0.05	0.1	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	0.2	1	0.1	0.1	0.2	0.2	0.05	0.05	0.2	0.2	0.2	2	0.2	0.2	0.05	0.2	0.2	0.2	0.2	0.2
NSW 2014 General Solid Waste CT1 (No Leaching)												60																				4										
NSW 2014 General Solid Waste SCC1 (with leached)												3																				7.5										
NSW 2014 Restricted Solid Waste CT2 (No Leaching)												240																				16										
NSW 2014 Restricted Solid Waste SCC2 (with leached)												432																				30										
Field_ID	**Location_Code**	**Sampled_Date_Time**																																								
TP103_0.2	TP103	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP103_1	TP103	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104 - ASB_0.1	TP104	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104_0.2	TP104	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP104_1	TP104	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105 - ASB_0.1	TP105	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105_0.2	TP105	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP105_1	TP105	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106 - ASB_0.1	TP106	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.2	TP106	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP106_0.5	TP106	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP107 - ASB_0.1	TP107	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP107_0.2	TP107	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP107_0.5	TP107	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108 - ASB_0.1	TP108	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.2	TP108	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP108_0.5	TP108	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109 - ASB_0.1	TP109	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109_0.2	TP109	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP109_0.5	TP109	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110 - ASB_0.1	TP110	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110_0.2	TP110	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP110_1	TP110	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP111 - ASB_0.1	TP111	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP111_0.2	TP111	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP111_0.5	TP111	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112 - ASB_0.1	TP112	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.2	TP112	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP112_0.5	TP112	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113 - ASB_0.1	TP113	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113_0.2	TP113	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP113_1	TP113	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114 - ASB_0.1	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114 - ASB_0.5	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114_0.2	TP114	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP114_2	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115 - ASB_0.1	TP115	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115_0.2	TP115	8/10/2019	<0.05	<0.1	-	-	<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	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2
TP115_1	TP115	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																										
Number of Results			33	33	3	3	33	33	33	33	33	3	33	33	33	33	33	33	33	33	33	33	30	30	30	33	30	3	3	33	33	33	30	30	30	3	33	33	33	30	30
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	1	0
Minimum 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	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<2	<0.2	<0.2	<0.05	<0.05	<0.05	<0.05	<0.2	<0.2
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	0.2	ND
Maximum Concentration			<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	<0.05	<0.05	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.05	<0.2	<0.2	<0.2	0.2	<0.2
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	0.2	ND
Average Concentration			0.025	0.048	0.025	0.025	0.025	0.025	0.025	0.032	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.1	0.5	0.1	0.1	0.093	0.1	0.025	0.025	0.093	0.093	0.093	1	0.1	0.1	0.025	0.093	0.093	0.093	0.1	0.1
Median Concentration			0.025	0.05	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	0.1	0.5	0.1	0.1	0.1	0.1	0.025	0.025	0.1	0.1	0.1	1	0.1	0.1	0.025	0.1	0.1	0.1	0.1	0.1
Standard Deviation			0	0.0073	0	0	0	0	0	0.022	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.022	0	0	0	0.022	0.022	0.022	0	0	0	0	0.022	0.022	0.022	0.018	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
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

			Organophosphorous Pesticides																						Pesticides	Herbicides	Halogenated Benzenes
			Ethion	Fensulfothion	Fenamiphos	Fenitrothion	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Naled (Dibrom)	Monocrotophos	Omethoate	Parathion	Phorate	Pirimphos-ethyl	Pyrazophos	Prothiofos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Pirimiphos-methyl	Tokuthion	Hexachlorobenzene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg
EQL			0.2	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2	2	0.2	0.2	0.05	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	50
NSW 2014 General Solid Waste CT1 (No Leaching)																											
NSW 2014 General Solid Waste SCC1 (with leached)																											
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																											
NSW 2014 Restricted Solid Waste SCC2 (with leached)																											
Field_ID	**Location_Code**	**Sampled_Date_Time**																									
ASB01		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB02		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB03		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ASB04		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DS01	DS01	27/11/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
DS02	DS02	27/11/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
DS03	DS03	27/11/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
DS04	DS04	27/11/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
DS05	DS05	27/11/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
HA01B-0.05	HA01B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01B-0.2	HA01B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	HA06B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	HA06B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.05	HA15B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.15	HA15B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.6	HA15B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.8	HA15B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.05	HA15C	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.2	HA15C	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.05	HA18B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.2	HA18B	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW01_0.2	MW01	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
MW01_2	MW01	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_0.2	MW02	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
MW02_1	MW02	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_2.0	MW02	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03_0.2	MW03	9/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
MW03_1.2	MW03	9/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04_0.2	MW04	9/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
MW04_2	MW04	9/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05_0.2	MW05	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
MW05_1	MW05	9/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
MW06_0.2	MW06	9/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
MW06_0.5	MW06	9/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA001_TK	MW02	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
QA002_TK	MW02	9/10/2019	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.2	-	-	<0.2	-	<0.2	-	<0.05	-	<0.05	-	-	-	-	-	-	<50
QA1	TP104	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
QA2	TP104	8/10/2019	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.2	-	-	<0.2	-	<0.2	-	<0.05	-	<0.05	-	-	-	-	-	-	<50
QA3	SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA4	SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA5	DS02	27/11/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
QA6	DS02	27/11/2019	<0.05	-	<0.05	-	<0.05	-	<0.05	-	<0.2	-	-	<0.2	-	<0.2	-	<0.05	-	<0.05	-	-	-	-	-	-	<50
SO01		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	SO01	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO02	SO02	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO03		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO03	SO03	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04		16/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04	SO04	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO05	SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101 - ASB_0.1	TP101	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101_0.2	TP101	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP101_0.5	TP101	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102 - ASB_0.1	TP102	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102_0.2	TP102	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP102_0.5	TP102	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP103 - ASB_0.1	TP103	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

			Organophosphorous Pesticides																						Pesticides	Herbicides	Halogenated Benzenes
			Ethion	Fensulfothion	Fenamiphos	Fenitrothion	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Naled (Dibrom)	Monocrotophos	Omethoate	Parathion	Phorate	Pirimphos-ethyl	Pyrazophos	Prothiofos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Pirimiphos-methyl	Tokuthion	Hexachlorobenzene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg
EQL			0.2	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2	2	0.2	0.2	0.05	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	50
NSW 2014 General Solid Waste CT1 (No Leaching)																											
NSW 2014 General Solid Waste SCC1 (with leached)																											
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																											
NSW 2014 Restricted Solid Waste SCC2 (with leached)																											
Field_ID	**Location_Code**	**Sampled_Date_Time**																									
TP103_0.2	TP103	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP103_1	TP103	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104 - ASB_0.1	TP104	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104_0.2	TP104	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP104_1	TP104	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105 - ASB_0.1	TP105	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105_0.2	TP105	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP105_1	TP105	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106 - ASB_0.1	TP106	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.2	TP106	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP106_0.5	TP106	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP107 - ASB_0.1	TP107	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP107_0.2	TP107	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP107_0.5	TP107	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108 - ASB_0.1	TP108	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.2	TP108	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP108_0.5	TP108	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109 - ASB_0.1	TP109	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109_0.2	TP109	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP109_0.5	TP109	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110 - ASB_0.1	TP110	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110_0.2	TP110	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP110_1	TP110	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP111 - ASB_0.1	TP111	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP111_0.2	TP111	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP111_0.5	TP111	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112 - ASB_0.1	TP112	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.2	TP112	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP112_0.5	TP112	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113 - ASB_0.1	TP113	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113_0.2	TP113	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP113_1	TP113	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114 - ASB_0.1	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114 - ASB_0.5	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114_0.2	TP114	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP114_2	TP114	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115 - ASB_0.1	TP115	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115_0.2	TP115	8/10/2019	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
TP115_1	TP115	8/10/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																											
Number of Results			33	30	3	30	33	30	33	30	33	30	30	33	30	33	30	3	30	3	30	30	30	30	30	30	33
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
Minimum Concentration			<0.05	<0.2	<0.05	<0.2	<0.05	<0.2	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2	<0.05	<0.2	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
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
Maximum Concentration			<0.2	<0.2	<0.05	<0.2	<0.2	<0.2	<0.2	<1	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	<0.05	<0.2	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50
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
Average Concentration			0.093	0.1	0.025	0.1	0.093	0.1	0.093	0.17	0.1	0.1	0.1	0.92	1	0.1	0.1	0.025	0.1	0.025	0.1	0.1	0.1	0.1	0.1	0.1	25
Median Concentration			0.1	0.1	0.025	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	1	0.1	0.1	0.025	0.1	0.025	0.1	0.1	0.1	0.1	0.1	0.1	25
Standard Deviation			0.022	0	0	0	0.022	0	0.022	0.15	0	0	0	0.26	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
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

			Asbestos																
		Asbestos Sample Dimensions	Asbestos Reported Result	Synthetic Fibres - Comment	FA- Comment	Approximate Sample Mass	ACM - Comment	Asbestos from ACM in Soil	AF - Comment	Organic Fibres - Comment	Mass ACM	Mass AF	Mass Asbestos in AF	Mass Asbestos in FA & AF	Mass Asbestos in ACM	Mass Asbestos in FA	Mass FA	Respirable Fibres - Comment
		Comment	Comment	Comment	Comment	g	Comment	%w/w	Comment	Comment	g	g	g	g	g	g	g	Comment
EQL								0			0	0	0	0	0	0	0	
NEPM 2013 Table 7 Commerical / industrial - Bonded ACM								0.05										
Field_ID	**Sampled_Date_Time**																	
ASB01	16-Oct-19	60x50x3	Chrysotile and amosite asbestos detected	Nil	Nil	15	Nil	0	Nil	Nil	0	0	0	0	0	0	0	Nil
ASB02	16-Oct-19	70x30x3	No asbestos detected.Organic fibre detected.No trace asbestos detected.	Nil	Nil	7	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
ASB03	16-Oct-19	70x30x3	Chrysotile asbestos detected.Organic fibre detected.	Nil	Nil	13	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	Nil
ASB04	16-Oct-19	40x20x4	Chrysotile and amosite asbestos detected	Nil	Nil	8	Nil	0	Nil	Nil	0	0	0	0	0	0	0	Nil
MW01_0.2	8-Oct-19	-	No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected.	Nil	Nil	72	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
MW02_0.2	8-Oct-19	-	No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected.	Nil	Nil	67	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
MW03_0.2	9-Oct-19	-	No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected.	Nil	Nil	59	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
MW04_0.2	9-Oct-19	-	No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected.	Nil	Nil	66	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
MW05_0.2	8-Oct-19	-	No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected.	Nil	Nil	54	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
MW05_1	9-Oct-19	-	No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected.	Nil	Nil	59	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
MW06_0.2	9-Oct-19	-	No asbestos detected at the reporting limit of 0.01% w/w.Organic fibre detected.No trace asbestos detected.	Nil	Nil	58	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP101 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	663	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP102 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	660	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP103 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	579	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP104 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	769	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP105 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	701	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP106 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	593	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP107 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	613	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP108 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	690	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP109 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	557	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP110 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	547	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP111 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	571	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP112 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	613	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP113 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	681	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP114 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	619	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP114 - ASB_0.5	8-Oct-19	-	<0.001	Nil	Nil	729	Nil	0	Nil	Organic fibres detected	0	0	0	0	0	0	0	No respirable fibres detected.
TP115 - ASB_0.1	8-Oct-19	-	<0.001	Nil	Nil	774	Nil	0	Nil	Nil	0	0	0	0	0	0	0	No respirable fibres detected.
Statistical Summary																		
Number of Results		4	23	0	0	27	0	27	0	0	27	27	27	27	27	27	27	0
Number of Detects		4	7	0	0	27	0	27	0	0	27	27	27	27	27	27	27	0
Minimum Concentration		40	<0.001	99999	99999	7	99999	0	99999	99999	0	0	0	0	0	0	0	99999
Minimum Detect		40	0.01	ND	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration		70	0.01	0	0	774	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Detect		70	0.01	ND	ND	774	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration		60	0.0034			401		0			0	0	0	0	0	0	0	
Median Concentration		65	0.0005			571		0			0	0	0	0	0	0	0	
Standard Deviation		14	0.0045			308		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

		Inorganics	Metals								TPH					TRH							BTEX			
		Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	C6-C10	>C6-C10 less BTEX (F1)	C10-C16	>C10-C16 less Naphthalene (F2)	C16-C34	C34-C40	>C10 - C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)
		%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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		1	2	0.4	5	5	5	0.1	5	5	20	20	50	50	50	20	20	50	50	100	100	100	0.1	0.1	0.1	0.2
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			3000[#1]	900		240000	1500[#2]	730[#3]	6000	400000																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																										
0-1m																	310[#7]		NL[#8]				4	NL[#8]	NL[#8]	
1-2m																	480[#7]		NL[#8]				6	NL[#8]	NL[#8]	
2-4m																	NL[#8]		NL[#8]				9	NL[#8]	NL[#8]	
>4m																	NL[#8]		NL[#8]				20	NL[#8]	NL[#8]	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																										
0-2m																	215[#9]		170[#10]	2500	6600		95	135	185	
PSI (JBS&G, 2019) EILs			160		321	108	1961		60	215																
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																800[#11]		1000[#11]		5000	10000					
Field_ID	**Sampled_Date_Time**																									
MW01_2	8-Oct-19	16	6.5	<0.4	19	19	18	<0.1	11	25	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW02_2.0	8-Oct-19	16	18	<0.4	50	29	42	<0.1	19	55	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW02_0.2	8-Oct-19	14	8.1	<0.4	26	23	18	<0.1	12	36	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW02_1	8-Oct-19	10	8.9	<0.4	26	24	22	<0.1	21	42	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW03_0.2	9-Oct-19	16	7.7	<0.4	18	27	15	<0.1	9.6	43	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW03_1.2	9-Oct-19	13	5.2	<0.4	13	30	41	<0.1	9.7	42	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW04_0.2	9-Oct-19	20	11	<0.4	27	24	18	<0.1	11	34	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW04_2	9-Oct-19	10	8.2	<0.4	13	20	6.8	<0.1	<5	28	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW05_0.2	8-Oct-19	20	10	<0.4	28	19	20	<0.1	9.6	28	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW05_1	9-Oct-19	21	7.8	<0.4	18	17	14	<0.1	5.8	21	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW06_0.2	9-Oct-19	19	4	<0.4	16	28	12	<0.1	13	52	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
MW06_0.5	9-Oct-19	16	3.6	<0.4	13	26	10	<0.1	11	50	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP101_0.2	8-Oct-19	17	9.5	<0.4	17	16	20	<0.1	12	33	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP101_0.5	8-Oct-19	21	18	<0.4	24	39	20	<0.1	12	47	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP102_0.2	8-Oct-19	14	11	<0.4	21	31	27	<0.1	10	47	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP102_0.5	8-Oct-19	16	5.5	<0.4	16	17	12	<0.1	8	21	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP103_1	8-Oct-19	16	5.7	<0.4	14	18	16	<0.1	9.2	24	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP104_0.2	8-Oct-19	10	4.1	<0.4	18	28	11	<0.1	18	54	<20	<20	120	160	280	<20	<20	<50	<50	220	180	400	<0.1	<0.1	<0.1	<0.2
QA2	8-Oct-19	10.2	<5	<1	29	35	13	<0.1	20	62	<10	<50	140	<100	140	<10	<10	<50	<50	160	<100	160	<0.2	<0.5	<0.5	<0.5
TP104_1	8-Oct-19	12	4.2	<0.4	9.9	36	15	<0.1	8.7	54	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP105_1	8-Oct-19	17	7.4	<0.4	21	27	12	<0.1	15	38	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP106_0.2	8-Oct-19	15	14	<0.4	27	22	34	<0.1	14	53	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP107_0.2	8-Oct-19	16	21	<0.4	46	21	30	<0.1	12	44	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP107_0.5	8-Oct-19	19	7.1	<0.4	20	26	23	<0.1	<5	22	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP108_0.2	8-Oct-19	15	11	<0.4	34	12	23	<0.1	7.2	18	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP108_0.5	8-Oct-19	16	11	<0.4	27	18	22	<0.1	8.3	22	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP109_0.5	8-Oct-19	21	13	<0.4	29	26	15	<0.1	11	41	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP110_0.2	8-Oct-19	12	9.6	<0.4	26	23	19	<0.1	10	40	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP111_0.2	8-Oct-19	20	13	<0.4	30	26	33	<0.1	15	55	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP111_0.5	8-Oct-19	21	11	<0.4	22	29	20	<0.1	9.5	43	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP112_0.5	8-Oct-19	15	19	<0.4	20	28	14	<0.1	24	68	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP113_0.2	8-Oct-19	19	7.2	<0.4	12	45	13	<0.1	11	48	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP114_0.2	8-Oct-19	13	9.3	<0.4	15	30	20	<0.1	7.7	39	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP114_2	8-Oct-19	17	9.2	<0.4	20	22	14	<0.1	8.6	29	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
TP115_1	8-Oct-19	22	13	<0.4	31	25	25	<0.1	7.4	25	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
HA01B-0.05	27/11/2019	6.3	-	-	-	45	-	-	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	27/11/2019	8	-	-	-	-	-	-	-	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	27/11/2019	9.8	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		Inorganics	Metals								TPH					TRH							BTEX			
		Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	C6-C10	>C6-C10 less BTEX (F1)	C10-C16	>C10-C16 less Naphthalene (F2)	C16-C34	C34-C40	>C10 - C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)
		%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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		1	2	0.4	5	5	5	0.1	5	5	20	20	50	50	50	20	20	50	50	100	100	100	0.1	0.1	0.1	0.2
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil			3000[#1]	900		240000	1500[#2]	730[#3]	6000	400000																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																										
0-1m																	310[#7]		NL[#8]				4	NL[#8]	NL[#8]	
1-2m																	480[#7]		NL[#8]				6	NL[#8]	NL[#8]	
2-4m																	NL[#8]		NL[#8]				9	NL[#8]	NL[#8]	
>4m																	NL[#8]		NL[#8]				20	NL[#8]	NL[#8]	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																										
0-2m																	215[#9]		170[#10]	2500	6600		95	135	185	
PSI (JBS&G, 2019) EILs			160		321	108	1961		60	215																
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																800[#11]		1000[#11]		5000	10000					
Field_ID	**Sampled_Date_Time**																									
HA15B-0.15	27/11/2019	16	-	-	-	-	-	-	-	-	<20	280	1300	330	1910	<20	<20	620	620	1200	280	2100	<0.1	<0.1	<0.1	<0.2
HA15B-0.6	27/11/2019	18	-	-	-	-	-	-	-	-	<20	830	2200	260	3290	<20	<20	1400	1396.6	1800	220	3420	<0.1	<0.1	<0.1	<0.2
HA15C-0.05	27/11/2019	11	-	-	-	-	-	-	-	-	<20	<20	54	73	127	<20	<20	<50	<50	100	<100	100	<0.1	<0.1	<0.1	<0.2
HA15C-0.2	27/11/2019	16	-	-	-	-	-	-	-	-	<20	<20	<50	<50	<50	<20	<20	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
HA18B-0.2	27/11/2019	11	-	-	-	-	-	-	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	27/11/2019	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04	27/11/2019	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO05	27/11/2019	9.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA4	27/11/2019	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																										
Number of Results		44	35	35	35	36	35	35	35	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39
Number of Detects		44	34	0	35	36	35	0	33	39	0	2	5	4	5	0	0	2	2	5	3	5	0	0	0	0
Minimum Concentration		6.3	3.6	<0.4	9.9	12	6.8	<0.1	<5	18	<10	<20	<50	<50	<50	<10	<10	<50	<50	<100	<100	<100	<0.1	<0.1	<0.1	<0.2
Minimum Detect		6.3	3.6	ND	9.9	12	6.8	ND	5.8	18	ND	280	54	73	127	ND	ND	620	620	100	180	100	ND	ND	ND	ND
Maximum Concentration		22	21	<1	50	45	42	<0.1	24	110	<20	830	2200	330	3290	<20	<20	1400	1396.6	1800	280	3420	<0.2	<0.5	<0.5	<0.5
Maximum Detect		22	21	ND	50	45	42	ND	24	110	ND	830	2200	330	3290	ND	ND	1400	1396.6	1800	280	3420	ND	ND	ND	ND
Average Concentration		15	9.6	0.21	23	26	20	0.05	11	42	9.9	38	120	44	169	9.9	9.9	76	75	133	64	202	0.051	0.055	0.055	0.1
Median Concentration		16	9.2	0.2	21	26	18	0.05	11	41	10	10	25	25	25	10	10	25	25	50	50	50	0.05	0.05	0.05	0.1
Standard Deviation		3.9	4.5	0.051	8.8	7.5	8.3	0	4.7	19	0.8	137	398	64	596	0.8	0.8	238	237	331	49	624	0.008	0.032	0.032	0.024
Number of Guideline Exceedances		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	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	1	2	0	0	0	0	0	0	0

Env Stds Description

NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil:Management limits are applied after consideration of relevant ESLs and HSLs

Env Stds Comments

	Inorganics	Metals								TPH					TRH							BTEX			
	Moisture Content	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9	C10-C14	C15-C28	C29-C36	C10-C36 (Sum of total)	C6-C10	>C6-C10 less BTEX (F1)	C10-C16	>C10-C16 less Naphthalene (F2)	C16-C34	C34-C40	>C10 - C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)
	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	1	2	0.4	5	5	5	0.1	5	5	20	20	50	50	50	20	20	50	50	100	100	100	0.1	0.1	0.1	0.2
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		3000[#1]	900		240000	1500[#2]	730[#3]	6000	400000																
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																									
0-1m																310[#7]		NL[#8]				4	NL[#8]	NL[#8]	
1-2m																480[#7]		NL[#8]				6	NL[#8]	NL[#8]	
2-4m																NL[#8]		NL[#8]				9	NL[#8]	NL[#8]	
>4m																NL[#8]		NL[#8]				20	NL[#8]	NL[#8]	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																									
0-2m																215[#9]		170[#10]	2500	6600		95	135	185	
PSI (JBS&G, 2019) EILs		160		321	108	1961		60	215																
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil															800[#11]		1000[#11]		5000	10000					

Field_ID **Sampled_Date_Time**

#1:Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability maybe important and should be considered where appropriate (refer Shedule B7).
#2:Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead model for where 50% bioavailability considered. Site-specific bioavailability should be considered where appropriate.
#3:Elemental mercury: HIL does not address elemental mercury. a site specific assessment should be considered if elemental mercury is present, or suspected to be present.
#4:Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Schedule 7) BaP TEQ calc by multiplying the conc of each carc. PAH in sample by its BaP TEF (ref Table 1A(1)) & summing
#5:Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL application should consider presence of carcinogenic PAHs (should meet BaP TEQ HIL) & napthalene (should meet relevant HSL)
#6:PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or suspected at a site, a site-specific assessment of exposure to all PCBs (inc dioxin like PCBs) should be undertaken
#7:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#8:Derived soil HSL exceeds soil saturation concentraiton
#9:Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#10:Moderate reliability. To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#11:Separate management limits for BTEX & napthalene are not available hence should not be subtracted from the relevant fractions to obtain F1 & F2

				PAH																						
		Xylene (o)	Xylene Total	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(g,h,i)perylene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	Arochlor 1016	Arochlor 1221	Arochlor 1232
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil											40[#4]												4000[#5]			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																										
0-1m			NL[#8]																	NL[#8]						
1-2m			NL[#8]																	NL[#8]						
2-4m			NL[#8]																	NL[#8]						
>4m			NL[#8]																	NL[#8]						
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																										
0-2m			95					1.4																		
PSI (JBS&G, 2019) EILs																				170						
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																										
Field_ID	**Sampled_Date_Time**																									
MW01_2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
MW02_2.0	8-Oct-19	<0.1	<0.3	<0.5	<0.5	0.6	1.6	1.5	2.6	2.6	2.6	0.9	1	1.4	1.3	0.6	3	<0.5	0.8	<0.5	1.9	2.9	17.5	-	-	-
MW02_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
MW02_1	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
MW03_0.2	9-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
MW03_1.2	9-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
MW04_0.2	9-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
MW04_2	9-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
MW05_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
MW05_1	9-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
MW06_0.2	9-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
MW06_0.5	9-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP101_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
TP101_0.5	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP102_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
TP102_0.5	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP103_1	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP104_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
QA2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP104_1	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP105_1	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP106_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
TP107_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
TP107_0.5	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP108_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
TP108_0.5	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP109_0.5	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP110_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
TP111_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
TP111_0.5	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP112_0.5	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP113_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
TP114_0.2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
TP114_2	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
TP115_1	8-Oct-19	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-
HA01B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

				PAH																						
		Xylene (o)	Xylene Total	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(g,h,i)perylene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	Arochlor 1016	Arochlor 1221	Arochlor 1232
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil											40[#4]												4000[#5]			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																										
0-1m			NL[#8]																	NL[#8]						
1-2m			NL[#8]																	NL[#8]						
2-4m			NL[#8]																	NL[#8]						
>4m			NL[#8]																	NL[#8]						
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																										
0-2m			95					1.4																		
PSI (JBS&G, 2019) EILs																				170						
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																										
Field_ID	**Sampled_Date_Time**																									
HA15B-0.15	27/11/2019	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
HA15B-0.6	27/11/2019	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	-	-	-	-	-	-
HA15C-0.05	27/11/2019	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
HA15C-0.2	27/11/2019	<0.1	<0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	-	-	-	-	-	-
HA18B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA4	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results	39	39	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	39	35	35	35	16	16	16
Number of Detects	0	0	0	0	1	1	1	1	35	35	1	1	1	1	1	1	0	1	1	1	1	1	0	0	0
Minimum Concentration	<0.1	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5
Minimum Detect	ND	ND	ND	ND	0.6	1.6	1.5	2.6	0.6	1.2	0.9	1	1.4	1.3	0.6	3	ND	0.8	3.4	1.9	2.9	17.5	ND	ND	ND
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	0.6	1.6	1.5	2.6	2.6	2.6	0.9	1	1.4	1.3	0.6	3	<0.5	0.8	3.4	1.9	2.9	17.5	<0.5	<0.1	<0.5
Maximum Detect	ND	ND	ND	ND	0.6	1.6	1.5	2.6	2.6	2.6	0.9	1	1.4	1.3	0.6	3	ND	0.8	3.4	1.9	2.9	17.5	ND	ND	ND
Average Concentration	0.055	0.15	0.25	0.25	0.26	0.29	0.29	0.32	0.66	1.2	0.27	0.27	0.28	0.28	0.26	0.33	0.25	0.27	0.33	0.3	0.33	0.74	0.25	0.05	0.25
Median Concentration	0.05	0.15	0.25	0.25	0.25	0.25	0.25	0.25	0.6	1.2	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	0.05	0.25
Standard Deviation	0.032	0.016	0	0	0.059	0.23	0.21	0.4	0.34	0.24	0.11	0.13	0.19	0.18	0.059	0.46	0	0.093	0.5	0.28	0.45	2.9	0	0	0
Number of Guideline Exceedances	0	0	0	0	0	0	1	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	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Description

NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil:Managemen

Env Stds Comments

			PAH																						
	Xylene (o)	Xylene Total	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(a)pyrene TEQ calc (Zero)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ (LOR)	Benzo(g,h,i)perylene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	Arochlor 1016	Arochlor 1221	Arochlor 1232
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.5
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil										40[#4]												4000[#5]			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																									
0-1m		NL[#8]																	NL[#8]						
1-2m		NL[#8]																	NL[#8]						
2-4m		NL[#8]																	NL[#8]						
>4m		NL[#8]																	NL[#8]						
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																									
0-2m		95					1.4																		
PSI (JBS&G, 2019) EILs																			170						
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																									

Field_ID	Sampled_Date_Time
#1:Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability may	
#2:Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead m	
#3:Elemental mercury: HIL does not address elemental mercury. a site specific a	
#4:Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Sche	
#5:Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL applic	
#6:PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or	
#7:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 frac	
#8:Derived soil HSL exceeds soil saturation concentraiton	
#9:Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations fr	
#10:Moderate reliability. To obtain F2 subtract napthalene from the >C10 - C16 f	
#11:Separate management limits for BTEX & napthalene are not available hence	

		PCBs					Organochlorine Pesticides																			
		Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	a-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin	b-BHC	chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	4,4-DDE	DDT	DDT+DDE+DDD	Endrin ketone	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.1	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
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						7[#6]				45		530							3600					100		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																										
0-1m																										
1-2m																										
2-4m																										
>4m																										
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																										
0-2m																										
PSI (JBS&G, 2019) EILs																		180								
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																										
Field_ID	**Sampled_Date_Time**																									
MW01_2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_2.0	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW02_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03_0.2	9-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW03_1.2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04_0.2	9-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW04_2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW05_1	9-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW06_0.2	9-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW06_0.5	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP101_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP102_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP103_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QA2	8-Oct-19	-	-	-	-	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP104_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP107_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP107_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP108_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP111_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP111_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP114_0.2	8-Oct-19	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
TP114_2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		PCBs					Organochlorine Pesticides																			
		Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	a-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin	b-BHC	chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	4,4-DDE	DDT	DDT+DDE+DDD	Endrin ketone	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.1	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
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						7[#6]				45		530							3600					100		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																										
0-1m																										
1-2m																										
2-4m																										
>4m																										
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																										
0-2m																										
PSI (JBS&G, 2019) EILs																		180								
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																										
Field_ID	**Sampled_Date_Time**																									
HA15B-0.15	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.6	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA4	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Statistical Summary

Number of Results	16	16	16	16	17	17	17	17	17	17	17			17	17	17	17	17	17	17	17	17	17	17	17
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
Minimum Concentration	<0.5	<0.5	<0.5	<0.5	<0.1	<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
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
Maximum Concentration	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1			<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
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
Average Concentration	0.25	0.25	0.25	0.25	0.24	0.025	0.025	0.025	0.025	0.025	0.049			0.025	0.025	0.025	0.029	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Median Concentration	0.25	0.25	0.25	0.25	0.25	0.025	0.025	0.025	0.025	0.025	0.05			0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Standard Deviation	0	0	0	0	0.049	0	0	0	0	0	0.0061			0	0	0	0.018	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
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

Env Stds Description

NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil:Managemen

Env Stds Comments

	PCBs					Organochlorine Pesticides																			
	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	a-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin	b-BHC	chlordane	Chlordane (cis)	Chlordane (trans)	d-BHC	DDD	4,4-DDE	DDT	DDT+DDE+DDD	Endrin ketone	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.1	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
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil					7[#6]				45		530							3600					100		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																									
0-1m																									
1-2m																									
2-4m																									
>4m																									
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																									
0-2m																									
PSI (JBS&G, 2019) EILs																	180								
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																									

Field_ID	Sampled_Date_Time

#1:Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability may
#2:Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead m
#3:Elemental mercury: HIL does not address elemental mercury. a site specific a
#4:Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Sch
#5:Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL applic
#6:PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or
#7:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 frac
#8:Derived soil HSL exceeds soil saturation concentraiton
#9:Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations fr
#10:Moderate reliability. To obtain F2 subtract napthalene from the >C10 - C16 f
#11:Separate management limits for BTEX & napthalene are not available hence

								Organophosphorous Pe																			
		Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	Azinophos methyl	Bolstar (Sulprofos)	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethion	Fensulfothion	Fenamiphos	Fenitrothion
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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		0.05	0.05	0.2	1	0.1	0.1	0.2	0.2	0.05	0.05	0.2	0.2	0.2	2	0.2	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.05	0.2
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		50		2500	160								2000														
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																											
0-1m																											
1-2m																											
2-4m																											
>4m																											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																											
0-2m																											
PSI (JBS&G, 2019) EILs																											
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																											
Field_ID	**Sampled_Date_Time**																										
MW01_2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_2.0	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
MW02_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03_0.2	9-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
MW03_1.2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04_0.2	9-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
MW04_2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
MW05_1	9-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
MW06_0.2	9-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
MW06_0.5	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
TP101_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
TP102_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP103_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
QA2	8-Oct-19	<0.05	<0.05	<0.2	-	-	-	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	-	-	<0.05	<0.05	<0.05	<0.05	-	-	<0.05	-	<0.05	-
TP104_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
TP107_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
TP107_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
TP108_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
TP111_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
TP111_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
TP114_0.2	8-Oct-19	<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2	-	-	<0.2	<0.2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	<0.2
TP114_2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

								Organophosphorous Pe																			
		Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	Azinophos methyl	Bolstar (Sulprofos)	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethion	Fensulfothion	Fenamiphos	Fenitrothion
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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		0.05	0.05	0.2	1	0.1	0.1	0.2	0.2	0.05	0.05	0.2	0.2	0.2	2	0.2	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.05	0.2
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil		50		2500	160								2000														
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																											
0-1m																											
1-2m																											
2-4m																											
>4m																											
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																											
0-2m																											
PSI (JBS&G, 2019) EILs																											
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																											
Field_ID	**Sampled_Date_Time**																										
HA15B-0.15	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.6	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO04	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA4	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																											
Number of Results		17	17	17	16	16	16	17	16			17	17	17	16	16	16		17	17	17	16	16	17	16		16
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
Minimum Concentration		<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.05	<0.2			<0.05	<0.05	<0.05	<2	<0.2	<0.2		<0.05	<0.05	<0.05	<0.2	<0.2	<0.05	<0.2		<0.2
Minimum Detect		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND		ND
Maximum Concentration		<0.05	<0.05	<0.2	<1	<0.2	<0.2	<0.2	<0.2			<0.2	<0.2	<0.2	<2	<0.2	<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		<0.2
Maximum Detect		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND		ND
Average Concentration		0.025	0.025	0.1	0.5	0.1	0.1	0.096	0.1			0.096	0.096	0.096	1	0.1	0.1		0.096	0.096	0.096	0.1	0.1	0.096	0.1		0.1
Median Concentration		0.025	0.025	0.1	0.5	0.1	0.1	0.1	0.1			0.1	0.1	0.1	1	0.1	0.1		0.1	0.1	0.1	0.1	0.1	0.1	0.1		0.1
Standard Deviation		0	0	0	0	0	0	0.018	0			0.018	0.018	0.018	0	0	0		0.018	0.018	0.018	0	0	0.018	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
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 Description

NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil:Managemen

Env Stds Comments

																										Organophosphorous Pe
	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic	Azinophos methyl	Bolstar (Sulprofos)	Bromophos-ethyl	Carbophenothion	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Demeton-S-methyl	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethion	Fensulfothion	Fenamiphos	Fenitrothion
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	0.05	0.05	0.2	1	0.1	0.1	0.2	0.2	0.05	0.05	0.2	0.2	0.2	2	0.2	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.05	0.2
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil	50		2500	160								2000														
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																										
0-1m																										
1-2m																										
2-4m																										
>4m																										
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																										
0-2m																										
PSI (JBS&G, 2019) EILs																										
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																										

Field_ID	Sampled_Date_Time

#1:Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability may
#2:Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead m
#3:Elemental mercury: HIL does not address elemental mercury. a site specific a
#4:Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Sche
#5:Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL applic
#6:PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or
#7:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 frac
#8:Derived soil HSL exceeds soil saturation concentraiton
#9:Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations fr
#10:Moderate reliability. To obtain F2 subtract napthalene from the >C10 - C16
#11:Separate management limits for BTEX & napthalene are not available hence

		sticides																		Pesticides	Herbicides	Halogenated Benzenes		
		Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Naled (Dibrom)	Monocrotophos	Omethoate	Parathion	Phorate	Pirimphos-ethyl	Pyrazophos	Prothiofos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Pirimiphos-methyl	Tokuthion	Hexachlorobenzene	2,4,5-trichlorophenol	2,4,6-trichlorophenol
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg	mg/kg	mg/kg
EQL		0.2	0.2	0.2	0.2	0.2	0.2	0.2	2	2	0.2	0.2	0.05	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	50	1	1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																						80000		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																								
0-1m																								
1-2m																								
2-4m																								
>4m																								
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																								
0-2m																								
PSI (JBS&G, 2019) EILs																								
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																								
Field_ID	**Sampled_Date_Time**																							
MW01_2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_2.0	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
MW02_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03_0.2	9-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
MW03_1.2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04_0.2	9-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
MW04_2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
MW05_1	9-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
MW06_0.2	9-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
MW06_0.5	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
TP101_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
TP102_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP103_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
QA2	8-Oct-19	<0.05	-	<0.05	-	<0.2	-	-	<0.2	-	<0.2	-	<0.05	-	<0.05	-	-	-	-	-	-	<50	-	-
TP104_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
TP107_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
TP107_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
TP108_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
TP111_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
TP111_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
TP114_0.2	8-Oct-19	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2	-	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	-	-
TP114_2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		sticides																		Pesticides	Herbicides	Halogenated Benzenes		
		Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Naled (Dibrom)	Monocrotophos	Omethoate	Parathion	Phorate	Pirimphos-ethyl	Pyrazophos	Prothiofos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Pirimiphos-methyl	Tokuthion	Hexachlorobenzene	2,4,5-trichlorophenol	2,4,6-trichlorophenol
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg	mg/kg	mg/kg
EQL		0.2	0.2	0.2	0.2	0.2	0.2	0.2	2	2	0.2	0.2	0.05	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	50	1	1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																						80000		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																								
0-1m																								
1-2m																								
2-4m																								
>4m																								
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																								
0-2m																								
PSI (JBS&G, 2019) EILs																								
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																								
Field_ID	**Sampled_Date_Time**																							
HA15B-0.15	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.6	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1
SO04	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1
SO05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<1
QA4	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5

Statistical Summary

Number of Results	17	16	17	16	17	16	16	17	16	17	16		16		16	16	16	16	16	16	17	1	1
Number of Detects	0	0	0	0	0	0	0	0	0	0	0		0		0	0	0	0	0	0	0	0	0
Minimum Concentration	<0.05	<0.2	<0.05	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<0.2		<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	<1	<1
Minimum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<0.2		<0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<50	<1	<1
Maximum Detect	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND		ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration	0.096	0.1	0.096	0.1	0.1	0.1	0.1	0.95	1	0.1	0.1		0.1		0.1	0.1	0.1	0.1	0.1	0.1	25		
Median Concentration	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1	1	0.1	0.1		0.1		0.1	0.1	0.1	0.1	0.1	0.1	25	0.5	0.5
Standard Deviation	0.018	0	0.018	0	0	0	0	0.22	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
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

Env Stds Description

NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil:Managemen

Env Stds Comments

	sticides																		Pesticides	Herbicides	Halogenated Benzenes		
	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Naled (Dibrom)	Monocrotophos	Omethoate	Parathion	Phorate	Pirimphos-ethyl	Pyrazophos	Prothiofos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Pirimiphos-methyl	Tokuthion	Hexachlorobenzene	2,4,5-trichlorophenol	2,4,6-trichlorophenol
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	µg/kg	mg/kg	mg/kg
EQL	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2	2	0.2	0.2	0.05	0.2	0.05	0.2	0.2	0.2	0.2	0.2	0.2	50	1	1
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																					80000		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																							
0-1m																							
1-2m																							
2-4m																							
>4m																							
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																							
0-2m																							
PSI (JBS&G, 2019) EILs																							
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																							

Field_ID	Sampled_Date_Time
#1:Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability may	
#2:Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead m	
#3:Elemental mercury: HIL does not address elemental mercury. a site specific a	
#4:Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Sch	
#5:Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL applic	
#6:PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or	
#7:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 frac	
#8:Derived soil HSL exceeds soil saturation concentraiton	
#9:Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations fr	
#10:Moderate reliability. To obtain F2 subtract napthalene from the >C10 - C16 f	
#11:Separate management limits for BTEX & napthalene are not available hence	

		Phenols																	
		2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-nitrophenol	2-methylphenol	3&4-Methylphenol (m&p-cresol)	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-nitrophenol	Dinoseb	Pentachlorophenol	Phenol	tetrachlorophenols	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.5	5	0.5	0.5	1	0.2	0.4	5	20	1	5	20	1	0.5	10	1	20
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																			
0-1m																			
1-2m																			
2-4m																			
>4m																			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																			
0-2m																			
PSI (JBS&G, 2019) EILs																			
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																			
Field_ID	**Sampled_Date_Time**																		
MW01_2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_2.0	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03_0.2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03_1.2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04_0.2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04_2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05_1	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW06_0.2	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW06_0.5	9-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP101_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP102_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP103_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104 0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP104_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP105_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP106_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP107_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP107_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP108_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP109_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP110_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP111_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP111_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP112_0.5	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP113_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114_0.2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP114_2	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP115_1	8-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA01B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA06B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

		Phenols																	
		2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-nitrophenol	2-methylphenol	3&4-Methylphenol (m&p-cresol)	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-nitrophenol	Dinoseb	Pentachlorophenol	Phenol	tetrachlorophenols	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL		0.5	0.5	5	0.5	0.5	1	0.2	0.4	5	20	1	5	20	1	0.5	10	1	20
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																			
0-1m																			
1-2m																			
2-4m																			
>4m																			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																			
0-2m																			
PSI (JBS&G, 2019) EILs																			
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																			
Field_ID	**Sampled_Date_Time**																		
HA15B-0.15	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15B-0.6	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.05	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA15C-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HA18B-0.2	27/11/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SO01	27/11/2019	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20
SO04	27/11/2019	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20
SO05	27/11/2019	<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20
QA4	27/11/2019	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<1	-	-	<0.5	-	-	<2	<0.5	-	-	-
Statistical Summary																			
Number of Results		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Number of Detects		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration		<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20
Minimum Detect		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration		<0.5	<0.5	<5	<0.5	<0.5	<1	<0.2	<0.4	<5	<20	<1	<5	<20	<1	<0.5	<10	<1	<20
Maximum Detect		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration																			
Median Concentration		0.25	0.25	2.5	0.25	0.25	0.5	0.1	0.2	2.5	10	0.5	2.5	10	0.5	0.25	5	0.5	10
Standard Deviation																			
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 Description

NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil:Managemen

Env Stds Comments

	Phenols																	
	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-nitrophenol	2-methylphenol	3&4-Methylphenol (m&p-cresol)	4,6-Dinitro-2-methylphenol	4,6-Dinitro-o-cyclohexyl phenol	4-chloro-3-methylphenol	4-nitrophenol	Dinoseb	Pentachlorophenol	Phenol	tetrachlorophenols	Phenols (Total Halogenated)	Phenols (Total Non Halogenated)
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	5	0.5	0.5	1	0.2	0.4	5	20	1	5	20	1	0.5	10	1	20
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																		
0-1m																		
1-2m																		
2-4m																		
>4m																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
0-2m																		
PSI (JBS&G, 2019) EILs																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																		

Field_ID	Sampled_Date_Time

#1:Arsenic: HIL assumes 70% oral bioavailability. Site-specific bioavailability may
#2:Lead: HILs A,B,C based on blood lead models (IEUBK & HIL D on adult lead m
#3:Elemental mercury: HIL does not address elemental mercury. a site specific a
#4:Carcinogenic PAHs: HIL based on 8 carc. PAHs & their TEFs (rel to BaP ref Sch
#5:Total PAHs: Based on sum of 16 most common reported (WHO 98). HIL applic
#6:PCBs: HIL refers to non-dioxin like PCBs only. Where PCB source is known, or
#7:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 frac
#8:Derived soil HSL exceeds soil saturation concentraiton
#9:Moderate reliability. To obtain F1 subtract the sum of BTEX concentrations fr
#10:Moderate reliability. To obtain F2 subtract napthalene from the >C10 - C16 f
#11:Separate management limits for BTEX & napthalene are not available hence

			Metals								TPH					TRH								BTEX																			
			Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Lead (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	C6-C9	C10-C14	C15-C28	C29-C36	+C10-C36 (Sum of total)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total		1-Chloronaphthalene	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Benzo(e)pyrene	Coronene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene
			mg/L	mg/L	mg/L	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	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	0.0002	0.001	0.001	0.001	0.0001	0.001	0.005	20	50	100	100	100	20	20	50	50	100	100	100	1	1	1	2	1	3		5	5	5	5	5	0.01	0.01	0.1	0.1	0.01	0.01	0.01
ANZG (2018) Freshwater 95% toxicant DGVs			13	0.0002[#1]		0.0014[#1]	0.0034[#2]	0.0006[#3]	0.011[#3]	0.008[#4]													950[#2]				350[#3]														0.1
NHMRC 2008 Primary Contact Recreation			0.1[#5]	0.02[#5]	0.5[#6]	20[#5]	0.1[#5]	0.01[#5]	0.2[#5]	60[#7]													10[#5]	8000[#5]	3000[#5]		1900[#7]	6000[#5]							5300[#7]				18000[#7]	0.12[#7]	0.1[#7]
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																										
2-4m																	6000		NL[#9]				30000	NL	NL			NL													
4-8m																	6000		NL[#9]				30000	NL	NL			NL													
>8m																	7000		NL[#9]				35000	NL	NL			NL													
NEPM 2013 Table 1C GILs, Fresh Waters				0.0002[#10]		0.0014[#10]	0.0034[#10]	0.00006[#11]	0.011[#10]	0.008[#10]													950				350														
Field_ID	**Location_Code**	**Sampled_Date_Time**																																								
DW01	DW01	16-Oct-19	0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
DW02	DW02	16-Oct-19	0.002	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.002	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
DW03	DW03	16-Oct-19	0.002	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.002	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
DW04	DW04	16-Oct-19	0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.001	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
DW05	DW05	16-Oct-19	0.002	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.002	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
Statistical Summary																																										
Number of Results			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	0	0	0	0	0	5	5	0	0	5	5	5
Number of Detects			5	0	0	0	0	0	4	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			0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	99999	99999	99999	99999	99999	99999	<0.01	<0.01	99999	99999	<0.01	<0.01	<0.01
Minimum Detect			0.001	ND	ND	ND	ND	ND	0.001	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			0.002	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.002	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	0	0	0	0	0	0	<0.01	<0.01	0	0	<0.01	<0.01	<0.01
Maximum Detect			0.002	ND	ND	ND	ND	ND	0.002	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			0.0016	0.0001	0.0005	0.0005	0.0005	0.00005	0.0015	0.0025	10	25	50	50	50	10	10	25	25	50	50	50	0.5	0.5	0.5	1	0.5	1.5							0.005	0.005			0.005	0.005	0.005
Median Concentration			0.002	0.0001	0.0005	0.0005	0.0005	0.00005	0.002	0.0025	10	25	50	50	50	10	10	25	25	50	50	50	0.5	0.5	0.5	1	0.5	1.5							0.005	0.005			0.005	0.005	0.005
Standard Deviation			0.00055	0	0	0	0	0	0.00071	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	5	0	0	0	0	0	0	0	0	5	0	5	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	5	0	5	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

#1:Very high reliability
#2:Moderate reliability
#3:Low reliability
#4:High reliability
#5:ADWG 2015 Health
#6:NHMRC 2008 Risk in Recreational Water
#7:EPA RSL May 2016
#8:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#9:To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#10:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARMCANZ (2000) for site specific hardness guidance
#11:Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZECC & ARMCANZ (2000) for further guidance.
#12:Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance.

			PAH															Phenols																												Phenols
			Benzo(a)pyrene TEQ calc (Zero)	Benzo(g,h,i)perylene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Benzo(b+j+k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	PAHs (Sum of total)	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-nitrophenol	2-methylphenol	38&4-Methylphenol (m&p-cresol)	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Pentachlorophenol	Phenol	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-nitrophenol
			µg/L	µg/L	ug/L	µg/L	ug/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	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	mg/L	µg/L	µg/L	µg/L	µg/L
EQL			0.05	0.01	0.01	0.01	4	0.01	0.01	0.01	0.01	0.01	0.01	0.1	0.01	0.01	0.01	10	10	10	3	3	0.03	3	3	10	3	6	30	10	30	10	3	10	10	10	3	3	0.03	3	3	10
ANZG (2018) Freshwater 95% toxicant DGVs													16[#3]							200	2000				3000								100				200	2000				3000	
NHMRC 2008 Primary Contact Recreation						3.4[#7]		34[#7]	0.034[#7]	8000[#7]	2900[#7]	0.34[#7]	1.7[#7]					20		20	160		0.045		490							10	320	20		20	160		0.045		490	
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																													
2-4m													NL																																
4-8m													NL																																
>8m													NL																																
NEPM 2013 Table 1C GILs, Fresh Waters													16					10		3	120		0.045		340							3.6	320	10		3	120		0.045		340	
Field_ID	**Location_Code**	**Sampled_Date_Time**																																											
DW01	DW01	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW02	DW02	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW03	DW03	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW04	DW04	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW05	DW05	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																													
Number of Results			0	5	5	5	0	5	5	5	5	5	5	0	5	5	5	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 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
Minimum Concentration			99999	<0.01	<0.01	<0.01	99999	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	99999	<0.01	<0.01	<0.01	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999
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
Maximum Concentration			0	<0.01	<0.01	<0.01	0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0	<0.01	<0.01	<0.01	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
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
Average Concentration				0.005	0.005	0.005		0.005	0.005	0.005	0.005	0.005	0.005		0.005	0.005	0.005																										
Median Concentration				0.005	0.005	0.005		0.005	0.005	0.005	0.005	0.005	0.005		0.005	0.005	0.005																										
Standard Deviation				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
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

Env Stds Comments

#1:Very high reliability
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#8:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fra
#9:To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#10:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARM
#11:Chemical for which possible bioaccumulation and secondary poisoning eff
#12:Figure may not protect key species from chronic toxicity, refer to ANZECC

										PCBs									Organochlorine Pesticides																										
			2-methylphenol	3&4-Methylphenol (m&p-cresol)	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Pentachlorophenol	Phenolics Total	Phenol	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	a-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin	b-BHC	chlordane	d-BHC	DDD	4,4-DDE	DDT	DDT+DDE+DDD	Endrin ketone	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic
			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	µg/L	mg/L	µg/L	µg/L
EQL			3	6	30	10	30	10	50	3	1	1	1	1	1	1	1	1	0.1	0.1	0.1	0.1	0.1	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	0.01	1	1
ANZG (2018) Freshwater 95% toxicant DGVs								100						0.6[#3]		0.03[#2]								0.08[#2]				0.01[#2]						0.02[#2]		0.2[#2]	0.09[#2]			0.0002[#2]		
NHMRC 2008 Primary Contact Recreation								10		320	2.2[#7]	0.046[#7]	0.046[#7]	0.078[#7]	0.078[#7]	0.078[#7]	0.078[#7]	0.44[#7]	0.071[#7]	0.0092[#7]	0.018[#7]	3[#5]	0.25[#7]	20[#5]		0.32[#7]	0.46[#7]	90[#5]						23[#7]		100[#5]	3[#5]	0.014[#7]	370[#7]	7.1[#7]		
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																														
2-4m																																														
4-8m																																														
>8m																																														
NEPM 2013 Table 1C GILs, Fresh Waters								3.6		320				0.3[#11]		0.01[#11]								0.03[#11]				0.006[#11]						0.01[#11]		0.2	0.01[#11]			0.0001[#11]		
Field_ID	**Location_Code**	**Sampled_Date_Time**																																												
DW01	DW01	16-Oct-19	-	-	-	-	-	-	<50	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.01	<1	<1
DW02	DW02	16-Oct-19	-	-	-	-	-	-	<50	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.01	<1	<1
DW03	DW03	16-Oct-19	-	-	-	-	-	-	<50	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.01	<1	<1
DW04	DW04	16-Oct-19	-	-	-	-	-	-	<50	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.01	<1	<1
DW05	DW05	16-Oct-19	-	-	-	-	-	-	<50	-	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.01	<1	<1
Statistical Summary																																														
Number of Results			0	0	0	0	0	0	5	0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
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
Minimum Concentration			99999	99999	99999	99999	99999	99999	<50	99999	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.01	<1	<1
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
Maximum Concentration			0	0	0	0	0	0	<50	0	<1	<1	<1	<1	<1	<1	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.01	<1	<1
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
Average Concentration									25		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	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	0.005	0.5	0.5
Median Concentration									25		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	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	0.005	0.5	0.5
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
Number of Guideline Exceedances			0	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	5	0	0	5	0	0	0	5	0	0	0	0	0	5	0	0	5	5	0	5	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

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			Organophosphorous Pesticides																																					Pesticides		Halog				
			Tokuthion	Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethion	Fensulfothion	Fenitrothion	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Naled (Dibrom)	Monocrotophos	Omethoate	Phorate	Pirimphos-ethyl	Pyrazophos	Prothiofos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Chlorobenziate	Carbazole	Parathion	Pirimiphos-methyl	1,2,3,4-tetrachlorobenzene	1,2,3-trichlorobenzene	1,2,3,5-Tetrachlorobenzene	1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene
			mg/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	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	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	ug/L	µg/L	ug/L	µg/L	µg/L
EQL			0.002	2	2	2	20	0.002	20	2	20	2	2	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	2	2	2	2	2	0.002	2	2	2	0.02	5	5	5	5	5
ANZG (2018) Freshwater 95% toxicant DGVs				0.02[#2]			0.01[#3]					0.01[#2]		0.15[#3]					0.2[#2]			0.05[#2]								5										0.004[#2]						
NHMRC 2008 Primary Contact Recreation				300[#5]	100[#5]	20[#5]	100[#5]	1.2[#7]				40[#5]	50[#5]	70[#5]	40[#5]	10[#5]	40[#5]	100[#5]	70[#5]	70[#5]	0.89[#7]	700[#5]	0.006[#7]	7[#5]	50[#5]	400[#7]	20[#5]	10[#5]	30[#7]		200[#5]			9[#5]		1[#5]			200[#5]	0.9[#5]		10			170
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																														
2-4m																																														
4-8m																																														
>8m																																														
NEPM 2013 Table 1C GILs, Fresh Waters							0.01[#11]					0.01		0.15					0.2			0.05																	0.004[#12]			3			85
Field_ID	**Location_Code**	**Sampled_Date_Time**																																												
DW01	DW01	16-Oct-19	<0.002	<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2	<0.002	-	-	<2	<0.02	-	-	-	-	-
DW02	DW02	16-Oct-19	<0.002	<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2	<0.002	-	-	<2	<0.02	-	-	-	-	-
DW03	DW03	16-Oct-19	<0.002	<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2	<0.002	-	-	<2	<0.02	-	-	-	-	-
DW04	DW04	16-Oct-19	<0.002	<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2	<0.002	-	-	<2	<0.02	-	-	-	-	-
DW05	DW05	16-Oct-19	<0.002	<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2	<0.002	-	-	<2	<0.02	-	-	-	-	-
Statistical Summary																																														
Number of Results			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	5	0	5	5	5	5	0	0	5	5	0	0	0	0	0
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
Minimum Concentration			<0.002	<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	####	<2	99999	<2	<2	<2	<0.002	99999	99999	<2	<0.02	99999	99999	99999	99999	99999
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
Maximum Concentration			<0.002	<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	0	<2	0	<2	<2	<2	<0.002	0	0	<2	<0.02	0	0	0	0	0
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
Average Concentration			0.001	1	1	1	10	0.001	10	1	10	1	1	1	1	1	1	1	1	1	1	1	0.001	1	1	1	1	1	1		1		1	1	1	0.001			1	0.01					
Median Concentration			0.001	1	1	1	10	0.001	10	1	10	1	1	1	1	1	1	1	1	1	1	1	0.001	1	1	1	1	1	1		1		1	1	1	0.001			1	0.01					
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					
Number of Guideline Exceedances			0	5	0	0	5	0	0	0	0	5	0	5	0	0	0	0	5	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	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

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			enated Benzenes						Explosives				Phthalates						VOCs	Amino Aliphatics				Amino Aromatics				Anilines				
			1,2-dichlorobenzene	1,3-dichlorobenzene	1,3,5-Trichlorobenzene	1,4-dichlorobenzene	Hexachlorobenzene	Pentachlorobenzene	1,3,5-Trinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	DIbenz(a.j)acridine	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	1-naphthylamine	2-naphthylamine	Diphenylamine	N-Nitrosodiphenyl & Diphenylamine	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline
			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	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			5	5	5	5	0.1	5	0.002	5	5	50	5	5	5	5	5	5	5	2	5	5	2	5	5	5	4	5	4	2	2	2
ANZG (2018) Freshwater 95% toxicant DGVs			15,000			400							100																			
NHMRC 2008 Primary Contact Recreation			160	260		60	0.098[#7]			65		550			1000	3700	26															
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																
2-4m																																
4-8m																																
>8m																																
NEPM 2013 Table 1C GILs, Fresh Waters			160	260		60									1000	3700	10															
Field_ID	**Location_Code**	**Sampled_Date_Time**																														
DW01	DW01	16-Oct-19	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW02	DW02	16-Oct-19	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW03	DW03	16-Oct-19	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW04	DW04	16-Oct-19	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW05	DW05	16-Oct-19	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																																
Number of Results			0	0	0	0	5	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 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
Minimum Concentration			99999	99999	99999	99999	<0.1	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999
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
Maximum Concentration			0	0	0	0	<0.1	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
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
Average Concentration							0.05																									
Median Concentration							0.05																									
Standard Deviation							0																									
Number of Guideline Exceedances			0	0	0	0	5	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

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				Nitroaromatics			Solvents	SVOCs																
			Aniline	2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene	Isophorone	2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Dibenzofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin
			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			5	5	5	5	2	2	5	5	5	5	2	2	5	2	5	5	2	2	2	5	4	2
ANZG (2018) Freshwater 95% toxicant DGVs						300																		
NHMRC 2008 Primary Contact Recreation			250																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																								
2-4m																								
4-8m																								
>8m																								
NEPM 2013 Table 1C GILs, Fresh Waters			8																					
Field_ID	**Location_Code**	**Sampled_Date_Time**																						
DW01	DW01	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW02	DW02	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW03	DW03	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW04	DW04	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW05	DW05	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Statistical Summary																								
Number of Results			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
Minimum Concentration			99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999	99999
Minimum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration																								
Median Concentration																								
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	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

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			Metals								TPH					TRH								BTEX																			
			Arsenic (Filtered)	Cadmium (Filtered)	Chromium (III+VI) (Filtered)	Copper (Filtered)	Lead (Filtered)	Mercury (Filtered)	Nickel (Filtered)	Zinc (Filtered)	C6-C9	C10-C14	C15-C28	C29-C36	+C10-C36 (Sum of total)	C6-C10	C6-C10 (F1 minus BTEX)	C10-C16	C10-C16 (F2 minus Naphthalene)	C16-C34	C34-C40	C10-C40 (Sum of total)	Benzene	Toluene	Ethylbenzene	Xylene (m & p)	Xylene (o)	Xylene Total	1-Chloronaphthalene	2-chloronaphthalene	2-methylnaphthalene	3-methylcholanthrene	7,12-dimethylbenz(a)anthracene	Acenaphthene	Acenaphthylene	Benzo(e)pyrene	Coronene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene
			mg/L	mg/L	mg/L	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	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	0.0002	0.001	0.001	0.001	0.0001	0.001	0.005	20	50	100	100	100	20	20	50	50	100	100	100	1	1	1	2	1	3	5	5	5	5	5	0.01	0.01	0.1	0.1	0.01	0.01	0.01
ANZG (2018) Freshwater 95% toxicant DGVs			13	0.0002[#1]		0.0014[#1]	0.0034[#2]	0.0006[#3]	0.011[#3]	0.008[#4]													950[#2]				350[#3]														0.1
NHMRC 2008 Primary Contact Recreation			0.1[#5]	0.02[#5]	0.5[#6]	20[#5]	0.1[#5]	0.01[#5]	0.2[#5]	60[#7]													10[#5]	8000[#5]	3000[#5]		1900[#7]	6000[#5]						5300[#7]				18000[#7]	0.12[#7]	0.1[#7]
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																										
2-4m																	6000		NL[#9]				30000	NL	NL			NL													
4-8m																	6000		NL[#9]				30000	NL	NL			NL													
>8m																	7000		NL[#9]				35000	NL	NL			NL													
NEPM 2013 Table 1C GILs, Fresh Waters				0.0002[#10]		0.0014[#10]	0.0034[#10]	0.00006[#11]	0.011[#10]	0.008[#10]													950				350														
Field_ID	**Location_Code**	**Sampled_Date_Time**																																								
MW01	MW01	16-Oct-19	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
MW01	MW01	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<1	<1	-	-	<1	<1	<1
MW02	MW02	16-Oct-19	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.009	0.01	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
MW02	MW02	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<1	<1	-	-	<1	<1	<1
QA3	MW02	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<1	<1	-	-	<1	<1	<1
QA4	MW02	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	<2	<2	<2	-	-	<2	<2	<2
MW03	MW03	23-Oct-19	<0.001	0.0003	<0.001	0.002	<0.001	<0.0001	0.004	0.012	<20	<50	<100	<100	<100	<20	<20	70	70	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
MW03	MW03	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<1	<1	-	-	<1	<1	<1
MW04	MW04	16-Oct-19	<0.001	0.0003	<0.001	<0.001	<0.001	<0.0001	0.003	0.009	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
MW04	MW04	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<1	<1	-	-	<1	<1	<1
MW05	MW05	16-Oct-19	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
MW05	MW05	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<1	<1	-	-	<1	<1	<1
MW06	MW06	16-Oct-19	0.003	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.002	0.047	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
QA1	MW06	16-Oct-19	0.004	<0.2	<1	<1	<1	<0.1	0.004	0.032	<20	<50	<100	<100	<100	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<3	-	-	-	-	-	-	<0.01	<0.01	-	-	<0.01	<0.01	<0.01
QA2	MW06	16-Oct-19	0.004	<0.1	<1	<1	<1	<0.1	0.004	0.028	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100	<1	<2	<2	<2	<2	<2	<1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
MW06	MW06	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<1	<1	-	-	<1	<1	<1
Statistical Summary																																										
Number of Results			8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	1	7	8	9	9	9	16	16	1	1	16	16	16
Number of Detects			3	2	0	1	0	0	6	6	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration			<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	<0.001	<0.005	<20	<50	<100	<50	<50	<20	<20	<50	<50	<100	<100	<100	<1	<1	<1	<2	<1	<2	<1	<5	<2	<0.1	<0.1	<0.1	<0.01	<0.01	<0.1	<0.1	<0.01	<0.01	<0.01
Minimum Detect			0.003	0.0003	ND	0.002	ND	ND	0.002	0.009	ND	ND	ND	ND	ND	ND	ND	70	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration			0.004	<0.2	<1	<1	<1	<0.1	0.009	0.047	<20	<50	<100	<100	<100	<20	<20	<100	<100	<100	<100	<100	<1	<2	<2	<2	<2	<3	<1	<5	<5	<5	<5	<5	<2	<2	<0.1	<0.1	<2	<2	<2
Maximum Detect			0.004	0.0003	ND	0.002	ND	ND	0.009	0.047	ND	ND	ND	ND	ND	ND	ND	70	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration			0.0017	0.019	0.13	0.13	0.13	0.013	0.0034	0.018	10	25	50	47	47	10	10	34	34	50	50	50	0.5	0.56	0.56	1	0.56	1.4		2.5	2.3	2.1	2.1	2.1	0.29	0.29			0.29	0.29	0.29
Median Concentration			0.0005	0.0002	0.0005	0.0005	0.0005	0.00005	0.0035	0.011	10	25	50	50	50	10	10	25	25	50	50	50	0.5	0.5	0.5	1	0.5	1.5	0.5	2.5	2.5	2.5	2.5	2.5	0.275	0.275	0.05	0.05	0.275	0.275	0.2625
Standard Deviation			0.0017	0.037	0.23	0.23	0.23	0.023	0.0027	0.016	0	0	0	8.8	8.8	0	0	17	17	0	0	0	0	0.18	0.18	0	0.18	0.18		0	0.53	0.9	0.9	0.9	0.31	0.31			0.31	0.31	0.31
Number of Guideline Exceedances			0	4	2	3	2	8	0	6	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8	8	0	0	0	0	0	0	8
Number of Guideline Exceedances(Detects Only)			0	2	0	1	0	0	0	6	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Env Stds Comments

#1:Very high reliability
#2:Moderate reliability
#3:Low reliability
#4:High reliability
#5:ADWG 2015 Health
#6:NHMRC 2008 Risk in Recreational Water
#7:EPA RSL May 2016
#8:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fraction.
#9:To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#10:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARMCANZ (2000) for site specific hardness guidance
#11:Chemical for which possible bioaccumulation and secondary poisoning effects should be considered, refer to ANZECC & ARMCANZ (2000) for further guidance.
#12:Figure may not protect key species from chronic toxicity, refer to ANZECC & ARMCANZ (2000) for further guidance.

			PAH															Phenols																										
			Benzo(a)pyrene TEQ calc (Zero)	Benzo(g,h,i)perylene	Benzo(b+j)fluoranthene	Benzo(k)fluoranthene	Benzo(b+j+k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Perylene	Phenanthrene	Pyrene	PAHs (Sum of total)	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-nitrophenol	2-methylphenol	3&4-Methylphenol (m&p-cresol)	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Pentachlorophenol	Phenol	2,3,4,6-tetrachlorophenol	2,4,5-trichlorophenol	2,4,6-trichlorophenol	2,4-dichlorophenol	2,4-dimethylphenol	2,4-dinitrophenol	2,6-dichlorophenol	2-chlorophenol	2-nitrophenol
			µg/L	µg/L	ug/L	µg/L	ug/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	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	mg/L	µg/L	µg/L	µg/L
EQL			0.05	0.01	0.01	0.01	4	0.01	0.01	0.01	0.01	0.01	0.01	0.1	0.01	0.01	0.01	10	10	10	3	3	0.03	3	3	10	3	6	30	10	30	10	3	10	10	10	3	3	0.03	3	3	10
ANZG (2018) Freshwater 95% toxicant DGVs													16[#3]							200	2000				3000							100				200	2000			3000	
NHMRC 2008 Primary Contact Recreation						3.4[#7]		34[#7]	0.034[#7]	8000[#7]	2900[#7]	0.34[#7]	1.7[#7]					20		20	160		0.045		490							10	320	20		20	160		0.045		490	
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																											
2-4m													NL																														
4-8m													NL																														
>8m													NL																														
NEPM 2013 Table 1C GILs, Fresh Waters													16					10		3	120		0.045		340							3.6	320	10		3	120		0.045		340	
Field_ID	**Location_Code**	**Sampled_Date_Time**																																									
MW01	MW01	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW01	MW01	27-Nov-19	-	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<10	<10	<10	<3	<3	<0.03	<3	<3	<10	<3	<6	<30	<10	<30	<10	<3	<10	<10	<10	<3	<3	<0.03	<3	<3	<10
MW02	MW02	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02	MW02	27-Nov-19	-	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<10	<10	<10	<3	<3	<0.03	<3	<3	<10	<3	<6	<30	<10	<30	<10	<3	<10	<10	<10	<3	<3	<0.03	<3	<3	<10
QA3	MW02	27-Nov-19	-	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<10	<10	<10	<3	<3	<0.03	<3	<3	<10	<3	<6	<30	<10	<30	<10	<3	<10	<10	<10	<3	<3	<0.03	<3	<3	<10
QA4	MW02	27-Nov-19	<2	<2	-	-	<4	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	-	<2	<2	<2	<2	-	<2	<2	<2	<2	<4	-	<2	-	<4	<2	-	<2	<2	<2	<2	-	<2	<2	<2
MW03	MW03	23-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03	MW03	27-Nov-19	-	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<10	<10	<10	<3	<3	<0.03	<3	<3	<10	<3	<6	<30	<10	<30	<10	<3	<10	<10	<10	<3	<3	<0.03	<3	<3	<10
MW04	MW04	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04	MW04	27-Nov-19	-	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<10	<10	<10	<3	<3	<0.03	<3	<3	<10	<3	<6	<30	<10	<30	<10	<3	<10	<10	<10	<3	<3	<0.03	<3	<3	<10
MW05	MW05	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05	MW05	27-Nov-19	-	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<10	<10	<10	<3	<3	<0.03	<3	<3	<10	<3	<6	<30	<10	<30	<10	<3	<10	<10	<10	<3	<3	<0.03	<3	<3	<10
MW06	MW06	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA1	MW06	16-Oct-19	-	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA2	MW06	16-Oct-19	<0.05	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW06	MW06	27-Nov-19	-	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	<1	<1	-	<10	<10	<10	<3	<3	<0.03	<3	<3	<10	<3	<6	<30	<10	<30	<10	<3	<10	<10	<10	<3	<3	<0.03	<3	<3	<10
Statistical Summary																																											
Number of Results			2	16	15	15	1	16	16	16	16	16	16	1	16	16	9	7	8	8	8	8	7	8	8	8	8	8	7	8	7	8	8	7	8	8	8	8	7	8	8	8
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
Minimum Concentration			<0.05	<0.01	<0.01	<0.01	<4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<10	<2	<2	<2	<2	<0.03	<2	<2	<2	<2	<4	<30	<2	<30	<4	<2	<10	<2	<2	<2	<2	<0.03	<2	<2	<2
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
Maximum Concentration			<2	<2	<1	<1	<4	<2	<2	<2	<2	<2	<2	<0.1	<2	<2	<2	<10	<10	<10	<3	<3	<0.03	<3	<3	<10	<3	<6	<30	<10	<30	<10	<3	<10	<10	<10	<3	<3	<0.03	<3	<3	<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
Average Concentration				0.29	0.24	0.24		0.29	0.29	0.29	0.29	0.29	0.29		0.29	0.29	0.12	5	4.5	4.5	1.4	1.4	0.015	1.4	1.4	4.5	1.4	2.9	15	4.5	15	4.6	1.4	5	4.5	4.5	1.4	1.4	0.015	1.4	1.4	4.5
Median Concentration			0.5125	0.275	0.05	0.05	2	0.275	0.275	0.275	0.275	0.275	0.275	0.05	0.275	0.275	0.005	5	5	5	1.5	1.5	0.015	1.5	1.5	5	1.5	3	15	5	15	5	1.5	5	5	5	1.5	1.5	0.015	1.5	1.5	5
Standard Deviation				0.31	0.25	0.25		0.31	0.31	0.31	0.31	0.31	0.31		0.31	0.31	0.33	0	1.4	1.4	0.18	0.18	0	0.18	0.18	1.4	0.18	0.35	0	1.4	0	1.1	0.18	0	1.4	1.4	0.18	0.18	0	0.18	0.18	1.4
Number of Guideline Exceedances			1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	7	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

Env Stds Comments

#1:Very high reliability
#2:Moderate reliability
#3:Low reliability
#4:High reliability
#5:ADWG 2015 Health
#6:NHMRC 2008 Risk in Recreational Water
#7:EPA RSL May 2016
#8:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fra
#9:To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#10:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARM
#11:Chemical for which possible bioaccumulation and secondary poisoning eff
#12:Figure may not protect key species from chronic toxicity, refer to ANZECC

										PCBs								Organochlorine Pesticides																										
			2-methylphenol	3&4-Methylphenol (m&p-cresol)	4,6-Dinitro-2-methylphenol	4-chloro-3-methylphenol	4-nitrophenol	Pentachlorophenol	Phenolics Total	Phenol	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	a-BHC	Aldrin	Dieldrin	Aldrin + Dieldrin	b-BHC	chlordane	d-BHC	DDD	4,4-DDE	DDT	DDT+DDE+DDD	Endrin ketone	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Organochlorine pesticides EPAVic	Other organochlorine pesticides EPAVic
			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	µg/L	mg/L	µg/L	µg/L
EQL			3	6	30	10	30	10	50	3	1	1	1	1	1	1	1	1	0.1	0.1	0.1	0.1	0.1	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	0.01	1	1
ANZG (2018) Freshwater 95% toxicant DGVs								100						0.6[#3]		0.03[#2]								0.08[#2]				0.01[#2]						0.02[#2]		0.2[#2]	0.09[#2]			0.0002[#2]		
NHMRC 2008 Primary Contact Recreation								10		320	2.2[#7]	0.046[#7]	0.046[#7]	0.078[#7]	0.078[#7]	0.078[#7]	0.078[#7]	0.44[#7]	0.071[#7]	0.0092[#7]	0.018[#7]	3[#5]	0.25[#7]	20[#5]		0.32[#7]	0.46[#7]	90[#5]						23[#7]		100[#5]	3[#5]	0.014[#7]	370[#7]	7.1[#7]		
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																													
2-4m																																													
4-8m																																													
>8m																																													
NEPM 2013 Table 1C GILs, Fresh Waters								3.6		320				0.3[#11]		0.01[#11]								0.03[#11]				0.006[#11]						0.01[#11]		0.2	0.01[#11]			0.0001[#11]		
Field_ID	**Location_Code**	**Sampled_Date_Time**																																											
MW01	MW01	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW01	MW01	27-Nov-19	<3	<6	<30	<10	<30	<10	-	<3	-	-	-	-	-	-	-	-	<5	<5	<5	-	<5	-	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-
MW02	MW02	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02	MW02	27-Nov-19	<3	<6	<30	<10	<30	<10	-	<3	-	-	-	-	-	-	-	-	<5	<5	<5	-	<5	-	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-
QA3	MW02	27-Nov-19	<3	<6	<30	<10	<30	<10	-	<3	-	-	-	-	-	-	-	-	<5	<5	<5	-	<5	-	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-
QA4	MW02	27-Nov-19	<2	<4	-	<2	-	<4	-	<2	-	-	-	-	-	-	-	-	<2	<2	<2	<4	<2	-	<2	<2	<2	<4	<4	-	<2	<2	<2	<2	<2	-	<2	<2	<2	-	-	-	-
MW03	MW03	23-Oct-19	-	-	-	-	-	-	-	-	<5	<1	<5	<5	<5	<5	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.01	<1	<1
MW03	MW03	27-Nov-19	<3	<6	<30	<10	<30	<10	-	<3	-	-	-	-	-	-	-	-	<5	<5	<5	-	<5	-	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-
MW04	MW04	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04	MW04	27-Nov-19	<3	<6	<30	<10	<30	<10	-	<3	-	-	-	-	-	-	-	-	<5	<5	<5	-	<5	-	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-
MW05	MW05	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05	MW05	27-Nov-19	<3	<6	<30	<10	<30	<10	-	<3	-	-	-	-	-	-	-	-	<5	<5	<5	-	<5	-	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-
MW06	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA1	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA2	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW06	MW06	27-Nov-19	<3	<6	<30	<10	<30	<10	-	<3	-	-	-	-	-	-	-	-	<5	<5	<5	-	<5	-	<5	<5	<5	<5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	-
Statistical Summary																																													
Number of Results			8	8	7	8	7	8	0	8	1	1	1	1	1	1	1	1	9	9	9	2	9	1	9	9	9	9	2	8	9	9	9	9	8	9	9	9	8	1	1	1
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
Minimum Concentration			<2	<4	<30	<2	<30	<4	99999	<2	<5	<1	<5	<5	<5	<5	<5	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<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	<0.01	<1	<1
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
Maximum Concentration			<3	<6	<30	<10	<30	<10	0	<3	<5	<1	<5	<5	<5	<5	<5	<1	<5	<5	<5	<4	<5	<1	<5	<5	<5	<5	<4	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.01	<1	<1
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
Average Concentration			1.4	2.9	15	4.5	15	4.6		1.4									2.1	2.1	2.1		2.1		2.1	2.1	2.1	2.2		2.2	2.1	2.1	2.1	2.1	2.2	2.1	2.1	2.1	2.2			
Median Concentration			1.5	3	15	5	15	5		1.5	2.5	0.5	2.5	2.5	2.5	2.5	2.5	0.5	2.5	2.5	2.5	1.025	2.5	0.5	2.5	2.5	2.5	2.5	1.025	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.005	0.5	0.5
Standard Deviation			0.18	0.35	0	1.4	0	1.1		0.18									0.9	0.9	0.9		0.9		0.9	0.9	0.9	0.81		0.87	0.9	0.9	0.9	0.9	0.87	0.9	0.9	0.9	0.87			
Number of Guideline Exceedances			0	0	0	0	0	8	0	0	1	1	1	1	1	1	1	1	9	9	9	1	8	1	0	8	8	9	0	0	0	0	0	9	0	8	9	9	0	1	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

Env Stds Comments

#1:Very high reliability
#2:Moderate reliability
#3:Low reliability
#4:High reliability
#5:ADWG 2015 Health
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#7:EPA RSL May 2016
#8:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fra
#9:To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#10:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARM
#11:Chemical for which possible bioaccumulation and secondary poisoning eff
#12:Figure may not protect key species from chronic toxicity, refer to ANZECC

			Organophosphorous Pesticides																																					Pesticides		Halog				
			Tokuthion	Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethoprop	Ethion	Fensulfothion	Fenitrothion	Fenthion	EPN	Malathion	Merphos	Methyl parathion	Mevinphos (Phosdrin)	Naled (Dibrom)	Monocrotophos	Omethoate	Phorate	Pirimphos-ethyl	Pyrazophos	Prothiofos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Chlorobenzilate	Carbazole	Parathion	Pirimiphos-methyl	1,2,3,4-tetrachlorobenzene	1,2,3-trichlorobenzene	1,2,3,5-Tetrachlorobenzene	1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene
			mg/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	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	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	ug/L	µg/L	ug/L	µg/L	µg/L
EQL			0.002	2	2	2	20	0.002	20	2	20	2	2	2	2	2	2	2	2	2	2	2	0.002	2	2	2	2	2	2	2	2	2	2	2	2	0.002	2	2	2	0.02	5	5	5	5	5
ANZG (2018) Freshwater 95% toxicant DGVs				0.02[#2]			0.01[#3]					0.01[#2]		0.15[#3]					0.2[#2]			0.05[#2]								5									0.004[#2]						
NHMRC 2008 Primary Contact Recreation				300[#5]	100[#5]	20[#5]	100[#5]	1.2[#7]				40[#5]	50[#5]	70[#5]	40[#5]	10[#5]	40[#5]	100[#5]	70[#5]	70[#5]	0.89[#7]	700[#5]	0.006[#7]	7[#5]	50[#5]	400[#7]	20[#5]	10[#5]	30[#7]		200[#5]			9[#5]		1[#5]			200[#5]	0.9[#5]		10			170
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																														
2-4m																																														
4-8m																																														
>8m																																														
NEPM 2013 Table 1C GILs, Fresh Waters							0.01[#11]					0.01		0.15					0.2			0.05																	0.004[#12]			3			85
Field_ID	**Location_Code**	**Sampled_Date_Time**																																												
MW01	MW01	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW01	MW01	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5
MW02	MW02	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02	MW02	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5
QA3	MW02	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5
QA4	MW02	27-Nov-19	-	-	-	<2	<2	<2	-	-	-	<2	<2	<2	-	-	<2	-	-	<2	-	<2	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	<2	<2	-	-	-	-	-	-	<2
MW03	MW03	23-Oct-19	<0.002	<2	<2	<2	<20	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	-	<2	-	<2	<2	<2	<0.002	-	-	<2	<0.02	-	-	-	-	-
MW03	MW03	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5
MW04	MW04	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04	MW04	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5
MW05	MW05	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05	MW05	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5
MW06	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA1	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA2	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW06	MW06	27-Nov-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5
Statistical Summary																																														
Number of Results			1	1	1	2	2	2	1	1	1	2	2	2	1	1	2	1	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	7	7	7	8
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
Minimum Concentration			<0.002	<2	<2	<2	<2	<0.002	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<0.02	<5	<5	<5	<5	<2
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
Maximum Concentration			<0.002	<2	<2	<2	<20	<2	<20	<2	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.002	<2	<2	<2	<0.02	<5	<5	<5	<5	<5
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
Average Concentration																																									2.5	2.5	2.5	2.5	2.3
Median Concentration			0.001	1	1	1	5.5	0.5005	10	1	10	1	1	1	1	1	1	1	1	1	1	0.001	1	1	1	1	1	1	1	1	1	1	1	1	0.001	1	1	1	0.01	2.5	2.5	2.5	2.5	2.5
Standard Deviation																																									0	0	0	0	0.53
Number of Guideline Exceedances			0	1	0	0	2	1	0	0	0	2	0	2	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	7	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

Env Stds Comments
#1:Very high reliability
#2:Moderate reliability
#3:Low reliability
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#8:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fra
#9:To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#10:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARM
#11:Chemical for which possible bioaccumulation and secondary poisoning eff
#12:Figure may not protect key species from chronic toxicity, refer to ANZECC

			enated Benzenes						Explosives				Phthalates						VOCs	Amino Aliphatics				Amino Aromatics				Anilines				
			1,2-dichlorobenzene	1,3-dichlorobenzene	1,3,5-Trichlorobenzene	1,4-dichlorobenzene	Hexachlorobenzene	Pentachlorobenzene	1,3,5-Trinitrobenzene	2,4-Dinitrotoluene	2,6-dinitrotoluene	Nitrobenzene	Bis(2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Dibenz(a,j)acridine	N-nitrosodiethylamine	N-nitrosodi-n-butylamine	N-nitrosodi-n-propylamine	N-Nitrosomethylethylamine	1-naphthylamine	2-naphthylamine	Diphenylamine	N-Nitrosodiphenyl & Diphenylamine	2-nitroaniline	3-nitroaniline	4-chloroaniline	4-nitroaniline	2-methyl-5-nitroaniline
			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	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			5	5	5	5	0.1	5	0.002	5	5	50	5	5	5	5	5	5	5	2	5	5	2	5	5	5	4	5	4	2	2	2
ANZG (2018) Freshwater 95% toxicant DGVs			15,000			400							100																			
NHMRC 2008 Primary Contact Recreation			160	260		60	0.098[#7]			65		550			1000	3700	26															
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																																
2-4m																																
4-8m																																
>8m																																
NEPM 2013 Table 1C GILs, Fresh Waters			160	260		60									1000	3700	10															
Field_ID	**Location_Code**	**Sampled_Date_Time**																														
MW01	MW01	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW01	MW01	27-Nov-19	<5	<5	<5	<5	<5	<5	-	<5	<5	<50	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	-	<5	<5	<5	-	<5	-	-	-	-
MW02	MW02	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02	MW02	27-Nov-19	<5	<5	<5	<5	<5	<5	-	<5	<5	<50	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	-	<5	<5	<5	-	<5	-	-	-	-
QA3	MW02	27-Nov-19	<5	<5	<5	<5	<5	<5	-	<5	<5	<50	7	<5	<5	<5	<5	<5	<5	-	<5	<5	-	<5	<5	<5	-	<5	-	-	-	-
QA4	MW02	27-Nov-19	<2	<2	-	<2	<4	<2	<0.002	<4	<4	<2	<10	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	-	-	<4	<4	<4	<2	<2	<2
MW03	MW03	23-Oct-19	-	-	-	-	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03	MW03	27-Nov-19	<5	<5	<5	<5	<5	<5	-	<5	<5	<50	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	-	<5	<5	<5	-	<5	-	-	-	-
MW04	MW04	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04	MW04	27-Nov-19	<5	<5	<5	<5	<5	<5	-	<5	<5	<50	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	-	<5	<5	<5	-	<5	-	-	-	-
MW05	MW05	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05	MW05	27-Nov-19	<5	<5	<5	<5	<5	<5	-	<5	<5	<50	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	-	<5	<5	<5	-	<5	-	-	-	-
MW06	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA1	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA2	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW06	MW06	27-Nov-19	<5	<5	<5	<5	<5	<5	-	<5	<5	<50	<5	<5	<5	<5	<5	<5	<5	-	<5	<5	-	<5	<5	<5	-	<5	-	-	-	-
Statistical Summary																																
Number of Results			8	8	7	8	9	8	1	8	8	8	8	8	8	8	8	8	7	1	8	8	1	8	7	7	1	8	1	1	1	1
Number of Detects			0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minimum Concentration			<2	<2	<5	<2	<0.1	<2	<0.002	<4	<4	<2	<5	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<5	<5	<4	<4	<4	<2	<2	<2
Minimum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration			<5	<5	<5	<5	<5	<5	<0.002	<5	<5	<50	<10	<5	<5	<5	<5	<5	<5	<2	<5	<5	<2	<5	<5	<5	<4	<5	<4	<2	<2	<2
Maximum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration			2.3	2.3	2.5	2.3	2.2	2.3		2.4	2.4	22	3.4	2.3	2.3	2.3	2.3	2.3	2.5		2.3	2.3		2.3	2.5	2.5		2.4				
Median Concentration			2.5	2.5	2.5	2.5	2.5	2.5	0.001	2.5	2.5	25	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1	2.5	2.5	1	2.5	2.5	2.5	2	2.5	2	1	1	1
Standard Deviation			0.53	0.53	0	0.53	0.81	0.53		0.18	0.18	8.5	1.7	0.53	0.53	0.53	0.53	0.53	0		0.53	0.53		0.53	0	0		0.18				
Number of Guideline Exceedances			0	0	0	0	9	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

Env Stds Comments
#1:Very high reliability
#2:Moderate reliability
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#6:NHMRC 2008 Risk in Recreational Water
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#8:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fra
#9:To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#10:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARM
#11:Chemical for which possible bioaccumulation and secondary poisoning eff
#12:Figure may not protect key species from chronic toxicity, refer to ANZECC

				Nitroaromatics			Solvents	SVOCs																
			Aniline	2-Picoline	4-aminobiphenyl	Pentachloronitrobenzene	Isophorone	2-(acetylamino) fluorene	3,3-Dichlorobenzidine	4-(dimethylamino) azobenzene	4-bromophenyl phenyl ether	4-chlorophenyl phenyl ether	4-Nitroquinoline-N-oxide	Azobenzene	Bis(2-chloroethoxy) methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl) ether	Dibenzofuran	Hexachloropropene	Methapyrilene	N-nitrosomorpholine	N-nitrosopiperidine	N-nitrosopyrrolidine	Phenacetin
			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			5	5	5	5	2	2	5	5	5	5	2	2	5	2	5	5	2	2	2	5	4	2
ANZG (2018) Freshwater 95% toxicant DGVs						300																		
NHMRC 2008 Primary Contact Recreation			250																					
NEPM 2013 Table 1A(4) Comm/Ind HSL D GW for Vapour Intrusion, Clay																								
2-4m																								
4-8m																								
>8m																								
NEPM 2013 Table 1C GILs, Fresh Waters			8																					
Field_ID	**Location_Code**	**Sampled_Date_Time**																						
MW01	MW01	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW01	MW01	27-Nov-19	<5	<5	<5	<5	-	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	-	-	-	<5	-	-
MW02	MW02	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW02	MW02	27-Nov-19	<5	<5	<5	<5	-	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	-	-	-	<5	-	-
QA3	MW02	27-Nov-19	<5	<5	<5	<5	-	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	-	-	-	<5	-	-
QA4	MW02	27-Nov-19	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	-	<2	<2	<2	<2	<2	<4	<2
MW03	MW03	23-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03	MW03	27-Nov-19	<5	<5	<5	<5	-	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	-	-	-	<5	-	-
MW04	MW04	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW04	MW04	27-Nov-19	<5	<5	<5	<5	-	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	-	-	-	<5	-	-
MW05	MW05	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW05	MW05	27-Nov-19	<5	<5	<5	<5	-	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	-	-	-	<5	-	-
MW06	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA1	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QA2	MW06	16-Oct-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW06	MW06	27-Nov-19	<5	<5	<5	<5	-	-	<5	<5	<5	<5	-	-	<5	-	<5	<5	-	-	-	<5	-	-
Statistical Summary																								
Number of Results			8	8	8	8	1	1	8	8	8	8	1	1	8	1	7	8	1	1	1	8	1	1
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
Minimum Concentration			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<5	<2	<2	<2	<2	<2	<4	<2
Minimum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Maximum Concentration			<5	<5	<5	<5	<2	<2	<5	<5	<5	<5	<2	<2	<5	<2	<5	<5	<2	<2	<2	<5	<4	<2
Maximum Detect			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Average Concentration			2.3	2.3	2.3	2.3			2.3	2.3	2.3	2.3			2.3		2.5	2.3				2.3		
Median Concentration			2.5	2.5	2.5	2.5	1	1	2.5	2.5	2.5	2.5	1	1	2.5	1	2.5	2.5	1	1	1	2.5	2	1
Standard Deviation			0.53	0.53	0.53	0.53			0.53	0.53	0.53	0.53			0.53		0	0.53				0.53		
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
#1:Very high reliability
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#5:ADWG 2015 Health
#6:NHMRC 2008 Risk in Recreational Water
#7:EPA RSL May 2016
#8:To obtain F1 subtract the sum of BTEX concentrations from the C6 - C10 fra
#9:To obtain F2 subtract napthalene from the >C10 - C16 fraction.
#10:Values calculated using hardness of 30 mg/L CaCO3. Refer ANZECC & ARM
#11:Chemical for which possible bioaccumulation and secondary poisoning eff
#12:Figure may not protect key species from chronic toxicity, refer to ANZECC

soil
water

Contents

SDG	29-Nov-19	14-Oct-19
Field ID	TRIP BLANK	TRIP BLANK
Sampled_Date/Time	27/11/2019	8/10/2019
Sample Type	Field_B	Trip_B

Method_Type	**ChemName**	**Units**	**EQL**		
Organic	Tokuthion	mg/kg	0.2		
	C6-C10	mg/kg	20	<20	<20
	>C6-C10 less BTEX (F1)	mg/kg	20	<20	<20
	C6-C9	mg/kg	20	<20	<20
	Naphthalene	mg/kg	0.5	<0.5	<0.5
Volatile	Benzene	mg/kg	0.1	<0.1	<0.1
	Toluene	mg/kg	0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	<0.1	<0.1
	Xylene (m & p)	mg/kg	0.2	<0.2	<0.2
	Xylene (o)	mg/kg	0.1	<0.1	<0.1
	Xylene Total	mg/kg	0.3	<0.3	<0.3

soil
water
Contents

			SDG	29-Nov-19	29-Nov-19	14-Oct-19	17-Oct-19	29-Nov-19	17-Oct-19
			Field ID	RINSATE	RINSATE	FIELD WATER	RINSATE	TRIP BLANK	TB
			Sampled_Date/Time	27/11/2019	28/11/2019	8/10/2019	16/10/2019	27/11/2019	16/10/2019
			Sample Type	Rinsate	Rinsate	Rinsate	Rinsate	Trip_B	Trip_B
Method_Type	**ChemName**	**Units**	**EQL**						
Heavy Metal	Arsenic	µg/l	0.001	<1	<1	<1	<1		
	Cadmium	µg/l	0.0002	<0.2	<0.2	<0.2	<0.2		
	Chromium (III+VI)	µg/l	0.001	<1	<1	**3**	<1		
	Copper	µg/l	0.001	<1	<1	**38**	<1		
	Lead	µg/l	0.001	<1	<1	**2**	<1		
	Mercury	µg/l	0.0001	<0.1	<0.1	<0.1	<0.1		
	Nickel	µg/l	0.001	**1**	**1**	<1	<1		
	Zinc	µg/l	0.005	**6**	**6**	**43**	<5		
Organic	C6-C10	µg/l	0.02	<20	<20			<20	<20
	>C6-C10 less BTEX (F1)	µg/l	20	<20	<20			<20	<20
	C6-C9	µg/L	0.02	<20	<20			<20	<20
	C10-C16	µg/L	0.05	<50	<50				
	>C10-C16 less Naphthalene (F2)	µg/l	50	<50	<50				
	C16-C34	µg/l	100	<100	<100				
	C34-C40	µg/l	100	<100	<100				
	Naphthalene	µg/l	0.01	<10	<10			<10	<10
	>C10 - C40 (Sum of total)	µg/l	100	<100	<100				
TPH	C10-C14	µg/l	0.05	<50	<50				
	C15-C28	µg/l	100	<100	<100				
	C29-C36	µg/l	100	<100	<100				
	C10-C36 (Sum of total)	µg/l	100	<100	<100				
Volatile	Benzene	µg/L	0.001	<1	<1			<1	<1
	Toluene	µg/L	0.001	<1	<1			<1	<1
	Ethylbenzene	µg/l	0.001	<1	<1			<1	<1
	Xylene (m & p)	µg/l	0.002	<2	<2			<2	<2
	Xylene (o)	µg/L	0.001	<1	<1			<1	<1
	Xylene Total	µg/l	0.003	<3	<3			<3	<3

APPENDIX G – LABORATORY DOCUMENTS

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☑ **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis	Project №	10035157	Project Manager	Jack Palma
Address	Level 16 580 George Street, Sydney	Project Name	Mirvac - Kemps Creek	EDD Format (ESdat, EQuIS etc)	Esdat, Equis.
Contact Name	Michael Ashelford				
Phone №	438477434				
Special Directions					
Purchase Order					
Quote ID №	191002ARCN				

Sampler(s)	Michael Ashelford
Handed over by	Michael Ashelford
Email for Invoice	Jack.palma@arcadis.com, au.accounts.payable@arcadis
Email for Results	michael.ashelford@arcadis.com, Jack.palma@arcadis.co

Required Turnaround Time (TAT) — Default will be 5 days if not ticked. ♦Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other( )

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix (Solid (S) Water (W))	Eurofins Discounted Suite B7LL - TRH, BTEXN, PAH (Trace Level), Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	Eurofins Discounted Suite: B151 OCP, OPP, PCB	Phenolics (Total) - Spectrophotometric technique	500mL Plastic	250mL Plastic	125mL Plastic	1 L Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	MW01	16.10.19	W	X					1	1	2				
2	MW02	16.10.20	W	X					1	1	2				
3	MW04	16.10.21	W	X					1	1	2				
4	MW05	16.10.22	W	X					1	1	2				
5	MW06	16.10.23	W	X					1	1	2				
6	DW01	16.10.24	W	X	X	X			2	1	2				
7	DW02	16.10.25	W	X	X	X			2	1	2				
8	DW03	16.10.26	W	X	X	X			2	1	2				
9	DW04	16.10.27	W	X	X	X			2	1	2				
10	DW05	16.10.28	W	X	X	X			2	1	2				
			Total Counts	10	5	5			15	10	20				

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name	Michael Ashelford	Signature		Date	17.10.2019	Time	1000

Eurofins | mgt Laboratory Use Only									
Received By	Suzanne Ford	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	17/10/19	Time	4:33PM	Temperature 14.6°C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report № 683212

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☑ **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis	Project №	10035157	Project Manager	Jack Palma
Address	Level 16 580 George Street, Sydney	Project Name	Mirvac - Kemps Creek	EDD Format (ESdat, EQuIS etc)	Esdat, Equis.
Contact Name	Michael Ashelford				
Phone №	438477434				
Special Directions					
Purchase Order					
Quote ID №	191002ARCN				

Sampler(s)	Michael Ashelford
Handed over by	Michael Ashelford
Email for Invoice	Jack.palma@arcadis.com, au.accounts.payable@arcadis
Email for Results	michael.ashelford@arcadis.com, Jack.palma@arcadis.co

Required Turnaround Time (TAT) — Default will be 5 days if not ticked.

♦Surcharge will apply

- ☐ Overnight (reporting by 9am)♦
- ☐ Same day♦ ☐ 1 day♦
- ☐ 2 days♦ ☐ 3 days♦
- ☑ 5 days (Standard)
- ☐ Other( )

Analyses: Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	HOLD	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	SO01	16.10.19	S	X							1		
2	SO02	16.10.20	S	X							1		
3	SO03	16.10.21	S	X							1		
4	SO04	16.10.22	S	X							1		
5	SO05	16.10.23	S	X							1		
6	ASB01	16.10.24	S	X								1	
7	ASB02	16.10.25	S	X								1	
8	ASB03	16.10.26	S	X								1	
9	ASB04	16.10.27	S	X								1	
10													
		Total Counts		9							5	4	

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name: Michael Ashelford | Signature | Date: 17.10.2019 | Time: 1000

Eurofins | mgt Laboratory Use Only

Received By	Suzanne Ford	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	17/10/19	Time	4:33pm	Temperature 4.6°C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report № 683242

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☑ **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis	Project №	10035157	Project Manager	Jack Palma
Address	Level 16 580 George Street, Sydney	Project Name	Mirvac - Kemps Creek	EDD Format (ESdat, EQuIS etc)	Esdat, Equis.
Contact Name	Michael Ashelford				
Phone №	438477434				
Special Directions	Please sent QA2 to ALS for duplicate analysis.				
Purchase Order					
Quote ID №	191002ARCN				

Sampler(s)	Michael Ashelford
Handed over by	Michael Ashelford
Email for Invoice	Jack.palma@arcadis.com, au.accounts.payable@arcadis
Email for Results	michael.ashelford@arcadis.com, Jack.palma@arcadis.co

Required Turnaround Time (TAT) Default will be 5 days if not ticked.

♦Surcharge will apply

- ☐ Overnight (reporting by 9am)♦
- ☐ Same day♦ ☐ 1 day♦
- ☐ 2 days♦ ☐ 3 days♦
- ☑ 5 days (Standard)
- ☐ Other( )

Analyses Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

Containers Change container type & size if necessary.

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Eurofins Discounted Suite B7LL - TRH, BTEXN, PAH (Trace Level), Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	Rinsate - Eurofins Discounted Suite: M81 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	Trip Blank/ Trip Spike - TRH (C6-C10) & BTEX	500mL Plastic	250mL Plastic	125mL Plastic	1L or 200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	QA1	16.10.19	W	X					1	1	2				
2	QA2	16.10.20	W	X					1	1	2				Please send to ALS
3	Rinsate	16.10.21	W		X				1	1	2				
4	Trip Spike	16.10.22	W			X					4				
5	Trip Blank	16.10.23	W			X					4				
6															
7															
8															
9															
10															
		Total Counts		2	1	2			3	3	14				

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Michael Ashelford	Signature	Date	17.10.2019	Time 1000

Eurofins | mgt Laboratory Use Only	Received By	Suzanne Ford	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	17/10/19	Time	4:33PM	Temperature	14.6°C
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	683212

Eurofins Environment Testing Australia Pty Ltd trading as Eurofins | mgt

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

Ursula Long

From: Palma, Jack <Jack.Palma@arcadis.com>
Sent: Friday, 18 October 2019 10:27 AM
To: #AU04_Enviro_Sample_NSW
Cc: Toase, Danielle; Munnichs, Loek
Subject: RE: Eurofins Sample Receipt Advice - Report 683212 : Site MIRVAC - KEMPS CREEK (10035157)

Follow Up Flag: Follow up
Flag Status: Completed

Hi,
Could we please have the following samples, which are on hold, scheduled for analysis:

- SO01, SO03, SO04 selected for M7: 7 metals
- ASB01, ASB02, ASB03, ASB04 selected for Asbestos ID in building materials

Please let me know if you need more information. Thanks

Kind Regards

Jack Palma | Environmental Scientist | jack.palma@arcadis.com
Arcadis | Level 16, 580 George Street, Sydney | NSW, 2000 | Australia
T. + 61 2 8907 4172 | M. +61 408 988 954
www.arcadis.com/au

ARCADIS Design & Consultancy for natural and built assets
Be green, leave it on the screen.

From: EnviroSampleNSW@eurofins.com <EnviroSampleNSW@eurofins.com>
Sent: Thursday, 17 October 2019 8:48 PM
To: Palma, Jack <Jack.Palma@arcadis.com>
Subject: Eurofins Sample Receipt Advice - Report 683212 : Site MIRVAC - KEMPS CREEK (10035157)

Dear Valued Client,

Sample, QA2 (1X1L Amber, 1Xfilter metals bottle, 2XVials) forwarded to ALS.

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins | mgt Analytical Services Manager as soon as possible to make certain that they get changed.

Regards

Suzanne Ford

eurofins | Environment Testing

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Site # 1254 & 14271

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NATA # 1261 Site # 20794

Perth
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Arcadis Australia**
Contact name:	Jack Palma
Project name:	MIRVAC - KEMPS CREEK
Project ID:	10035157
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Oct 17, 2019 4:33 PM
Eurofins reference:	**683212**

Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☑ All samples have been received as described on the above COC.
- ☑ COC has been completed correctly.
- ☑ Attempt to chill was evident.
- ☑ Appropriately preserved sample containers have been used.
- ☑ All samples were received in good condition.
- ☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☑ Appropriate sample containers have been used.
- ☑ Sample containers for volatile analysis received with zero headspace.
- ☑ Split sample sent to requested external lab.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Sample, QA2 (1X1L Amber, 1Xfilter metals bottle, 2XVials) forwarded to ALS.

Contact notes

If you have any questions with respect to these samples please contact:

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to Jack Palma - jack.palma@arcadis.com.

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ABN – 50 005 085 521
e.mail : EnviroSales@eurofins.com
web : www.eurofins.com.au

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Kewdale WA 6105
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NATA # 1261
Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: MIRVAC - KEMPS CREEK
Project ID: 10035157

Order No.:
Report #: 683212
Phone: 02 8907 9000
Fax:

Received: Oct 17, 2019 4:33 PM
Due: Oct 24, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos Absence /Presence	HOLD	Phenolics (total)	Metals M7	Metals M8	Eurofins | mgt Suite B15	Moisture Set	BTEXN and Volatile TRH	Eurofins | mgt Suite B7 (PAH trace level)	Eurofins | mgt Suite B7 (filtered metals/PAH trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	MW01	Oct 16, 2019		Water	S19-Oc26968										X
2	MW02	Oct 16, 2019		Water	S19-Oc26969										X
3	MW04	Oct 16, 2019		Water	S19-Oc26970										X
4	MW05	Oct 16, 2019		Water	S19-Oc26971										X
5	MW06	Oct 16, 2019		Water	S19-Oc26972										X
6	DW01	Oct 16, 2019		Water	S19-Oc26973			X			X				X
7	DW02	Oct 16, 2019		Water	S19-Oc26974			X			X				X
8	DW03	Oct 16, 2019		Water	S19-Oc26975			X			X				X
9	DW04	Oct 16, 2019		Water	S19-Oc26976			X			X				X

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web : www.eurofins.com.au

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NATA # 1261
Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: MIRVAC - KEMPS CREEK
Project ID: 10035157

Order No.:
Report #: 683212
Phone: 02 8907 9000
Fax:

Received: Oct 17, 2019 4:33 PM
Due: Oct 24, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos Absence /Presence	HOLD	Phenolics (total)	Metals M7	Metals M8	Eurofins | mgt Suite B15	Moisture Set	BTEXN and Volatile TRH	Eurofins | mgt Suite B7 (PAH trace level)	Eurofins | mgt Suite B7 (filtered metals/PAH trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	DW05	Oct 16, 2019		Water	S19-Oc26977			X			X				X
11	QA1	Oct 16, 2019		Water	S19-Oc26978									X	
12	RINSATE	Oct 16, 2019		Water	S19-Oc26979					X					
13	TS	Oct 16, 2019		Water	S19-Oc26980								X		
14	TB	Oct 16, 2019		Water	S19-Oc26981								X		
15	SO01	Oct 16, 2019		Soil	S19-Oc26982				X			X			
16	SO02	Oct 16, 2019		Soil	S19-Oc26983		X								
17	SO03	Oct 16, 2019		Soil	S19-Oc26984				X			X			
18	SO04	Oct 16, 2019		Soil	S19-Oc26985				X			X			
19	SO05	Oct 16, 2019		Soil	S19-Oc26986		X								
20	ASB01	Oct 16, 2019		Building Materials	S19-Oc26987	X									

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Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
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NSW 2000

Project Name: MIRVAC - KEMPS CREEK
Project ID: 10035157

Order No.:
Report #: 683212
Phone: 02 8907 9000
Fax:

Received: Oct 17, 2019 4:33 PM
Due: Oct 24, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos Absence /Presence	HOLD	Phenolics (total)	Metals M7	Metals M8	Eurofins | mgt Suite B15	Moisture Set	BTEXN and Volatile TRH	Eurofins | mgt Suite B7 (PAH trace level)	Eurofins | mgt Suite B7 (filtered metals/PAH trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
21	ASB02	Oct 16, 2019		Building Materials	S19-Oc26988	X									
22	ASB03	Oct 16, 2019		Building Materials	S19-Oc26989	X									
23	ASB04	Oct 16, 2019		Building Materials	S19-Oc26990	X									
Test Counts						4	2	5	3	1	5	3	2	1	10

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Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Arcadis Australia
Lvl 16/580 George Street
Sydney
NSW 2000

Attention:	Jack Palma
Report	683212-AID
Project Name	MIRVAC - KEMPS CREEK
Project ID	10035157
Received Date	Oct 17, 2019
Date Reported	Oct 24, 2019

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Project Name MIRVAC - KEMPS CREEK
Project ID 10035157
Date Sampled Oct 16, 2019
Report 683212-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
ASB01	19-Oc26987	Oct 16, 2019	Approximate Sample 15g / 60x50x3mm Sample consisted of: Grey compressed fibre cement fragments	Chrysotile and amosite asbestos detected.
ASB02	19-Oc26988	Oct 16, 2019	Approximate Sample 7g / 70x30x3mm Sample consisted of: Grey fibre cement fragments	No asbestos detected. Organic fibre detected. No trace asbestos detected.
ASB03	19-Oc26989	Oct 16, 2019	Approximate Sample 13g / 80x30x5mm Sample consisted of: Grey fibre cement fragments	Chrysotile asbestos detected. Organic fibre detected.
ASB04	19-Oc26990	Oct 16, 2019	Approximate Sample 8g / 40x20x4mm Sample consisted of: Grey fibrous cement material	Chrysotile and amosite asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Oct 18, 2019	Indefinite

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NATA # 1261
Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: MIRVAC - KEMPS CREEK
Project ID: 10035157

Order No.:
Report #: 683212
Phone: 02 8907 9000
Fax:

Received: Oct 17, 2019 4:33 PM
Due: Oct 24, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos Absence /Presence	HOLD	Phenolics (total)	Metals M7	Metals M8	Eurofins | mgt Suite B15	Moisture Set	BTEXN and Volatile TRH	Eurofins | mgt Suite B7 (PAH trace level)	Eurofins | mgt Suite B7 (filtered metals/PAH trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	MW01	Oct 16, 2019		Water	S19-Oc26968										X
2	MW02	Oct 16, 2019		Water	S19-Oc26969										X
3	MW04	Oct 16, 2019		Water	S19-Oc26970										X
4	MW05	Oct 16, 2019		Water	S19-Oc26971										X
5	MW06	Oct 16, 2019		Water	S19-Oc26972										X
6	DW01	Oct 16, 2019		Water	S19-Oc26973			X			X				X
7	DW02	Oct 16, 2019		Water	S19-Oc26974			X			X				X
8	DW03	Oct 16, 2019		Water	S19-Oc26975			X			X				X
9	DW04	Oct 16, 2019		Water	S19-Oc26976			X			X				X

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Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	DW05	Oct 16, 2019		Water	S19-Oc26977			X			X				X
11	QA1	Oct 16, 2019		Water	S19-Oc26978									X	
12	RINSATE	Oct 16, 2019		Water	S19-Oc26979					X					
13	TS	Oct 16, 2019		Water	S19-Oc26980								X		
14	TB	Oct 16, 2019		Water	S19-Oc26981								X		
15	SO01	Oct 16, 2019		Soil	S19-Oc26982				X			X			
16	SO02	Oct 16, 2019		Soil	S19-Oc26983		X								
17	SO03	Oct 16, 2019		Soil	S19-Oc26984				X			X			
18	SO04	Oct 16, 2019		Soil	S19-Oc26985				X			X			
19	SO05	Oct 16, 2019		Soil	S19-Oc26986		X								
20	ASB01	Oct 16, 2019		Building Materials	S19-Oc26987	X									

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Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
21	ASB02	Oct 16, 2019		Building Materials	S19-Oc26988	X									
22	ASB03	Oct 16, 2019		Building Materials	S19-Oc26989	X									
23	ASB04	Oct 16, 2019		Building Materials	S19-Oc26990	X									
Test Counts						4	2	5	3	1	5	3	2	1	10

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested
* Indicates NATA accreditation does not cover the performance of this service
Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

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Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Arcadis Australia
Lvl 16/580 George Street
Sydney
NSW 2000

Attention: **Jack Palma**

Report **683212-S**
Project name MIRVAC - KEMPS CREEK
Project ID 10035157
Received Date Oct 17, 2019

Client Sample ID			**SO01**	**SO03**	**SO04**
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S19-Oc26982**	**S19-Oc26984**	**S19-Oc26985**
Date Sampled			**Oct 16, 2019**	**Oct 16, 2019**	**Oct 16, 2019**
Test/Reference	LOR	Unit			
Heavy Metals					
Arsenic	2	mg/kg	10	8.7	9.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	62	22	19
Copper	5	mg/kg	33	57	23
Lead	5	mg/kg	62	32	24
Nickel	5	mg/kg	50	11	9.3
Zinc	5	mg/kg	970	300	65
% Moisture	1	%	14	24	21

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Metals M7	Melbourne	Oct 22, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Melbourne	Oct 18, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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Sample Detail						Asbestos Absence /Presence	HOLD	Phenolics (total)	Metals M7	Metals M8	Eurofins | mgt Suite B15	Moisture Set	BTEXN and Volatile TRH	Eurofins | mgt Suite B7 (PAH trace level)	Eurofins | mgt Suite B7 (filtered metals/PAH trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
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2	MW02	Oct 16, 2019		Water	S19-Oc26969										X
3	MW04	Oct 16, 2019		Water	S19-Oc26970										X
4	MW05	Oct 16, 2019		Water	S19-Oc26971										X
5	MW06	Oct 16, 2019		Water	S19-Oc26972										X
6	DW01	Oct 16, 2019		Water	S19-Oc26973			X			X				X
7	DW02	Oct 16, 2019		Water	S19-Oc26974			X			X				X
8	DW03	Oct 16, 2019		Water	S19-Oc26975			X			X				X
9	DW04	Oct 16, 2019		Water	S19-Oc26976			X			X				X

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Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	DW05	Oct 16, 2019		Water	S19-Oc26977			X			X				X
11	QA1	Oct 16, 2019		Water	S19-Oc26978									X	
12	RINSATE	Oct 16, 2019		Water	S19-Oc26979					X					
13	TS	Oct 16, 2019		Water	S19-Oc26980								X		
14	TB	Oct 16, 2019		Water	S19-Oc26981								X		
15	SO01	Oct 16, 2019		Soil	S19-Oc26982				X			X			
16	SO02	Oct 16, 2019		Soil	S19-Oc26983		X								
17	SO03	Oct 16, 2019		Soil	S19-Oc26984				X			X			
18	SO04	Oct 16, 2019		Soil	S19-Oc26985				X			X			
19	SO05	Oct 16, 2019		Soil	S19-Oc26986		X								
20	ASB01	Oct 16, 2019		Building Materials	S19-Oc26987	X									

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Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
21	ASB02	Oct 16, 2019		Building Materials	S19-Oc26988	X									
22	ASB03	Oct 16, 2019		Building Materials	S19-Oc26989	X									
23	ASB04	Oct 16, 2019		Building Materials	S19-Oc26990	X									
Test Counts						4	2	5	3	1	5	3	2	1	10

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Arsenic			mg/kg	< 2			2	Pass	
Cadmium			mg/kg	< 0.4			0.4	Pass	
Chromium			mg/kg	< 5			5	Pass	
Copper			mg/kg	< 5			5	Pass	
Lead			mg/kg	< 5			5	Pass	
Nickel			mg/kg	< 5			5	Pass	
Zinc			mg/kg	< 5			5	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	112			80-120	Pass	
Cadmium			%	94			80-120	Pass	
Chromium			%	120			80-120	Pass	
Copper			%	118			80-120	Pass	
Lead			%	118			80-120	Pass	
Nickel			%	115			80-120	Pass	
Zinc			%	113			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Oc26982	CP	%	106			75-125	Pass	
Cadmium	S19-Oc26982	CP	%	85			75-125	Pass	
Chromium	S19-Oc26982	CP	%	138			75-125	Fail	Q08
Copper	S19-Oc26982	CP	%	124			75-125	Pass	
Lead	S19-Oc26982	CP	%	145			75-125	Fail	Q08
Nickel	S19-Oc26982	CP	%	144			75-125	Fail	Q08
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Oc26982	CP	mg/kg	10	11	<1	30%	Pass	
Cadmium	S19-Oc26982	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Oc26982	CP	mg/kg	62	63	2.0	30%	Pass	
Copper	S19-Oc26982	CP	mg/kg	33	33	1.0	30%	Pass	
Lead	S19-Oc26982	CP	mg/kg	62	62	<1	30%	Pass	
Nickel	S19-Oc26982	CP	mg/kg	50	51	2.0	30%	Pass	
Zinc	S19-Oc26982	CP	mg/kg	970	980	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Oc26984	CP	%	24	24	1.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Certificate of Analysis

NATA Accredited
Accreditation Number 1261
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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Arcadis Australia
Lvl 16/580 George Street
Sydney
NSW 2000

Attention: **Jack Palma**

Report **683212-W**
Project name MIRVAC - KEMPS CREEK
Project ID 10035157
Received Date Oct 17, 2019

Client Sample ID			**MW01**	**MW02**	**MW04**	**MW05**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**S19-Oc26968**	**S19-Oc26969**	**S19-Oc26970**	**S19-Oc26971**
Date Sampled			**Oct 16, 2019**	**Oct 16, 2019**	**Oct 16, 2019**	**Oct 16, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	82	87	89	89
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001

Client Sample ID			MW01	MW02	MW04	MW05
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-Oc26968	S19-Oc26969	S19-Oc26970	S19-Oc26971
Date Sampled			Oct 16, 2019	Oct 16, 2019	Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons (Trace level)						
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	63	63	68	67
p-Terphenyl-d14 (surr.)	1	%	75	54	86	60
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	0.0003	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	< 0.001	0.009	0.003	< 0.001
Zinc (filtered)	0.005	mg/L	< 0.005	0.010	0.009	< 0.005

Client Sample ID			MW06	DW01	DW02	DW03
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-Oc26972	S19-Oc26973	S19-Oc26974	S19-Oc26975
Date Sampled			Oct 16, 2019	Oct 16, 2019	Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	97	94	93	96

Client Sample ID			MW06	DW01	DW02	DW03
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-Oc26972	S19-Oc26973	S19-Oc26974	S19-Oc26975
Date Sampled			Oct 16, 2019	Oct 16, 2019	Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
4.4'-DDD	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
4.4'-DDE	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
4.4'-DDT	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
a-BHC	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Aldrin	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
b-BHC	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
d-BHC	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Dieldrin	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endosulfan I	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endosulfan II	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endosulfan sulphate	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endrin	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endrin aldehyde	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Endrin ketone	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Heptachlor	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Heptachlor epoxide	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Hexachlorobenzene	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Methoxychlor	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Toxaphene	0.01	mg/L	-	< 0.01	< 0.01	< 0.01
Aldrin and Dieldrin (Total)*	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
DDT + DDE + DDD (Total)*	0.0001	mg/L	-	< 0.0001	< 0.0001	< 0.0001
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Dibutylchlorendate (surr.)	1	%	-	83	67	54
Tetrachloro-m-xylene (surr.)	1	%	-	58	94	82
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Chlorpyrifos	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
Demeton-S	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
Demeton-O	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Ethoprop	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002

Client Sample ID			MW06	DW01	DW02	DW03
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-Oc26972	S19-Oc26973	S19-Oc26974	S19-Oc26975
Date Sampled			Oct 16, 2019	Oct 16, 2019	Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Omethoate	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Phorate	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	-	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	-	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	-	69	77	81
Polychlorinated Biphenyls						
Aroclor-1016	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Aroclor-1221	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Aroclor-1232	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Aroclor-1242	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Aroclor-1248	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Aroclor-1254	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Aroclor-1260	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Total PCB*	0.001	mg/L	-	< 0.001	< 0.001	< 0.001
Dibutylchlorendate (surr.)	1	%	-	83	67	54
Tetrachloro-m-xylene (surr.)	1	%	-	58	94	82
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	78	93	78	66
p-Terphenyl-d14 (surr.)	1	%	64	90	73	74
Phenolics (total)	0.05	mg/L	-	< 0.05	< 0.05	< 0.05

Client Sample ID			MW06	DW01	DW02	DW03
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-Oc26972	S19-Oc26973	S19-Oc26974	S19-Oc26975
Date Sampled			Oct 16, 2019	Oct 16, 2019	Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.003	0.001	0.002	0.002
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.002	< 0.001	0.002	0.002
Zinc (filtered)	0.005	mg/L	0.047	< 0.005	< 0.005	< 0.005

Client Sample ID			DW04	DW05	QA1	RINSATE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-Oc26976	S19-Oc26977	S19-Oc26978	S19-Oc26979
Date Sampled			Oct 16, 2019	Oct 16, 2019	Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH >C16-C34	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C34-C40	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	-
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	< 0.1	< 0.1	-
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	-
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Xylenes - Total	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
4-Bromofluorobenzene (surr.)	1	%	95	81	87	-
Organochlorine Pesticides						
Chlordanes - Total	0.001	mg/L	< 0.001	< 0.001	-	-
4.4'-DDD	0.0001	mg/L	< 0.0001	< 0.0001	-	-
4.4'-DDE	0.0001	mg/L	< 0.0001	< 0.0001	-	-
4.4'-DDT	0.0001	mg/L	< 0.0001	< 0.0001	-	-
a-BHC	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Aldrin	0.0001	mg/L	< 0.0001	< 0.0001	-	-
b-BHC	0.0001	mg/L	< 0.0001	< 0.0001	-	-
d-BHC	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Dieldrin	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Endosulfan I	0.0001	mg/L	< 0.0001	< 0.0001	-	-

Client Sample ID			DW04	DW05	QA1	RINSATE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-Oc26976	S19-Oc26977	S19-Oc26978	S19-Oc26979
Date Sampled			Oct 16, 2019	Oct 16, 2019	Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Endosulfan II	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Endosulfan sulphate	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Endrin	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Endrin aldehyde	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Endrin ketone	0.0001	mg/L	< 0.0001	< 0.0001	-	-
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Heptachlor	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Heptachlor epoxide	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Hexachlorobenzene	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Methoxychlor	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Toxaphene	0.01	mg/L	< 0.01	< 0.01	-	-
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	-	-
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	-	-
Dibutylchlorendate (surr.)	1	%	114	58	-	-
Tetrachloro-m-xylene (surr.)	1	%	78	82	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	-	-
Bolstar	0.002	mg/L	< 0.002	< 0.002	-	-
Chlorfenvinphos	0.002	mg/L	< 0.002	< 0.002	-	-
Chlorpyrifos	0.02	mg/L	< 0.02	< 0.02	-	-
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	-	-
Coumaphos	0.02	mg/L	< 0.02	< 0.02	-	-
Demeton-S	0.02	mg/L	< 0.02	< 0.02	-	-
Demeton-O	0.002	mg/L	< 0.002	< 0.002	-	-
Diazinon	0.002	mg/L	< 0.002	< 0.002	-	-
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	-	-
Dimethoate	0.002	mg/L	< 0.002	< 0.002	-	-
Disulfoton	0.002	mg/L	< 0.002	< 0.002	-	-
EPN	0.002	mg/L	< 0.002	< 0.002	-	-
Ethion	0.002	mg/L	< 0.002	< 0.002	-	-
Ethoprop	0.002	mg/L	< 0.002	< 0.002	-	-
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	-	-
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	-	-
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	-	-
Fenthion	0.002	mg/L	< 0.002	< 0.002	-	-
Malathion	0.002	mg/L	< 0.002	< 0.002	-	-
Merphos	0.002	mg/L	< 0.002	< 0.002	-	-
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	-	-
Mevinphos	0.002	mg/L	< 0.002	< 0.002	-	-
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	-	-
Naled	0.002	mg/L	< 0.002	< 0.002	-	-
Omethoate	0.002	mg/L	< 0.002	< 0.002	-	-
Phorate	0.002	mg/L	< 0.002	< 0.002	-	-
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	-	-
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	-	-
Ronnel	0.002	mg/L	< 0.002	< 0.002	-	-
Terbufos	0.002	mg/L	< 0.002	< 0.002	-	-

Client Sample ID			DW04	DW05	QA1	RINSATE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-Oc26976	S19-Oc26977	S19-Oc26978	S19-Oc26979
Date Sampled			Oct 16, 2019	Oct 16, 2019	Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	-	-
Tokuthion	0.002	mg/L	< 0.002	< 0.002	-	-
Trichloronate	0.002	mg/L	< 0.002	< 0.002	-	-
Triphenylphosphate (surr.)	1	%	88	60	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.001	mg/L	< 0.001	< 0.001	-	-
Aroclor-1221	0.001	mg/L	< 0.001	< 0.001	-	-
Aroclor-1232	0.001	mg/L	< 0.001	< 0.001	-	-
Aroclor-1242	0.001	mg/L	< 0.001	< 0.001	-	-
Aroclor-1248	0.001	mg/L	< 0.001	< 0.001	-	-
Aroclor-1254	0.001	mg/L	< 0.001	< 0.001	-	-
Aroclor-1260	0.001	mg/L	< 0.001	< 0.001	-	-
Total PCB*	0.001	mg/L	< 0.001	< 0.001	-	-
Dibutylchlorendate (surr.)	1	%	114	58	-	-
Tetrachloro-m-xylene (surr.)	1	%	78	82	-	-
Polycyclic Aromatic Hydrocarbons (Trace level)						
Acenaphthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Acenaphthylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Benz(a)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Benzo(a)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Chrysene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Fluoranthene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Fluorene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Naphthalene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Phenanthrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Pyrene	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
Total PAH*	0.00001	mg/L	< 0.00001	< 0.00001	< 0.00001	-
2-Fluorobiphenyl (surr.)	1	%	67	66	89	-
p-Terphenyl-d14 (surr.)	1	%	56	61	70	-
Phenolics (total)	0.05	mg/L	< 0.05	< 0.05	-	-
Heavy Metals						
Arsenic	0.001	mg/L	-	-	0.004	< 0.001
Arsenic (filtered)	0.001	mg/L	0.001	0.002	-	-
Cadmium	0.0002	mg/L	-	-	< 0.0002	< 0.0002
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	-	-
Chromium	0.001	mg/L	-	-	< 0.001	< 0.001
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Copper	0.001	mg/L	-	-	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Lead	0.001	mg/L	-	-	< 0.001	< 0.001
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	-	-
Mercury	0.0001	mg/L	-	-	< 0.0001	< 0.0001

Client Sample ID			DW04	DW05	QA1	RINSATE
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-Oc26976	S19-Oc26977	S19-Oc26978	S19-Oc26979
Date Sampled			Oct 16, 2019	Oct 16, 2019	Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	-	-
Nickel	0.001	mg/L	-	-	0.004	< 0.001
Nickel (filtered)	0.001	mg/L	0.001	0.002	-	-
Zinc	0.005	mg/L	-	-	0.032	< 0.005
Zinc (filtered)	0.005	mg/L	< 0.005	< 0.005	-	-

Client Sample ID			R20 TS	TB
Sample Matrix			Water	Water
Eurofins Sample No.			S19-Oc26980	S19-Oc26981
Date Sampled			Oct 16, 2019	Oct 16, 2019
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene N02	0.01	mg/L	88	< 0.01
TRH C6-C10	0.02	mg/L	72	< 0.02
TRH C6-C10 less BTEX (F1) N04	0.02	mg/L	-	< 0.02
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	71	< 0.02
BTEX				
Benzene	0.001	mg/L	93	< 0.001
Toluene	0.001	mg/L	95	< 0.001
Ethylbenzene	0.001	mg/L	91	< 0.001
m&p-Xylenes	0.002	mg/L	88	< 0.002
o-Xylene	0.001	mg/L	95	< 0.001
Xylenes - Total	0.003	mg/L	90	< 0.003
4-Bromofluorobenzene (surr.)	1	%	98	87

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons	Melbourne	Oct 21, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins | mgt Suite B7 (filtered metals/PAH trace level)			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Oct 21, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Oct 21, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Oct 21, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Melbourne	Oct 21, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Oct 21, 2019	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Metals M8 filtered	Melbourne	Oct 21, 2019	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins | mgt Suite B15			
Organochlorine Pesticides	Melbourne	Oct 21, 2019	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8270)			
Organophosphorus Pesticides	Melbourne	Oct 21, 2019	7 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS (USEPA 8081)			
Polychlorinated Biphenyls	Melbourne	Oct 21, 2019	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water (USEPA 8082)			
Phenolics (total)	Melbourne	Oct 21, 2019	7 Days
- Method: LTM-INO-4050 Total Phenolics in Waters and solids by CFA			
Eurofins | mgt Suite B7 (PAH trace level)			
Metals M8	Melbourne	Oct 21, 2019	180 Days
- Method:			

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Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
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NSW 2000

Project Name: MIRVAC - KEMPS CREEK
Project ID: 10035157

Order No.:
Report #: 683212
Phone: 02 8907 9000
Fax:

Received: Oct 17, 2019 4:33 PM
Due: Oct 24, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos Absence /Presence	HOLD	Phenolics (total)	Metals M7	Metals M8	Eurofins | mgt Suite B15	Moisture Set	BTEXN and Volatile TRH	Eurofins | mgt Suite B7 (PAH trace level)	Eurofins | mgt Suite B7 (filtered metals/PAH trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
External Laboratory															
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**										
1	MW01	Oct 16, 2019		Water	S19-Oc26968										X
2	MW02	Oct 16, 2019		Water	S19-Oc26969										X
3	MW04	Oct 16, 2019		Water	S19-Oc26970										X
4	MW05	Oct 16, 2019		Water	S19-Oc26971										X
5	MW06	Oct 16, 2019		Water	S19-Oc26972										X
6	DW01	Oct 16, 2019		Water	S19-Oc26973			X			X				X
7	DW02	Oct 16, 2019		Water	S19-Oc26974			X			X				X
8	DW03	Oct 16, 2019		Water	S19-Oc26975			X			X				X
9	DW04	Oct 16, 2019		Water	S19-Oc26976			X			X				X

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Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
10	DW05	Oct 16, 2019		Water	S19-Oc26977			X			X				X
11	QA1	Oct 16, 2019		Water	S19-Oc26978									X	
12	RINSATE	Oct 16, 2019		Water	S19-Oc26979					X					
13	TS	Oct 16, 2019		Water	S19-Oc26980								X		
14	TB	Oct 16, 2019		Water	S19-Oc26981								X		
15	SO01	Oct 16, 2019		Soil	S19-Oc26982				X			X			
16	SO02	Oct 16, 2019		Soil	S19-Oc26983		X								
17	SO03	Oct 16, 2019		Soil	S19-Oc26984				X			X			
18	SO04	Oct 16, 2019		Soil	S19-Oc26985				X			X			
19	SO05	Oct 16, 2019		Soil	S19-Oc26986		X								
20	ASB01	Oct 16, 2019		Building Materials	S19-Oc26987	X									

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Sample Detail						Asbestos Absence /Presence	HOLD	Phenolics (total)	Metals M7	Metals M8	Eurofins | mgt Suite B15	Moisture Set	BTEXN and Volatile TRH	Eurofins | mgt Suite B7 (PAH trace level)	Eurofins | mgt Suite B7 (filtered metals/PAH trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X									
Brisbane Laboratory - NATA Site # 20794															
Perth Laboratory - NATA Site # 23736															
21	ASB02	Oct 16, 2019		Building Materials	S19-Oc26988	X									
22	ASB03	Oct 16, 2019		Building Materials	S19-Oc26989	X									
23	ASB04	Oct 16, 2019		Building Materials	S19-Oc26990	X									
Test Counts						4	2	5	3	1	5	3	2	1	10

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4.4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/L	< 0.002			0.002	Pass	
Bolstar	mg/L	< 0.002			0.002	Pass	
Chlorfenvinphos	mg/L	< 0.002			0.002	Pass	
Chlorpyrifos	mg/L	< 0.02			0.02	Pass	
Chlorpyrifos-methyl	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.02			0.02	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Demeton-S	mg/L	< 0.02			0.02	Pass	
Demeton-O	mg/L	< 0.002			0.002	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
EPN	mg/L	< 0.002			0.002	Pass	
Ethion	mg/L	< 0.002			0.002	Pass	
Ethoprop	mg/L	< 0.002			0.002	Pass	
Ethyl parathion	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Merphos	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.002			0.002	Pass	
Naled	mg/L	< 0.002			0.002	Pass	
Omethoate	mg/L	< 0.002			0.002	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Pirimiphos-methyl	mg/L	< 0.02			0.02	Pass	
Pyrazophos	mg/L	< 0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Terbufos	mg/L	< 0.002			0.002	Pass	
Tetrachlorvinphos	mg/L	< 0.002			0.002	Pass	
Tokuthion	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/L	< 0.001			0.001	Pass	
Aroclor-1221	mg/L	< 0.001			0.001	Pass	
Aroclor-1232	mg/L	< 0.001			0.001	Pass	
Aroclor-1242	mg/L	< 0.001			0.001	Pass	
Aroclor-1248	mg/L	< 0.001			0.001	Pass	
Aroclor-1254	mg/L	< 0.001			0.001	Pass	
Aroclor-1260	mg/L	< 0.001			0.001	Pass	
Total PCB*	mg/L	< 0.001			0.001	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	mg/L	< 0.00001			0.00001	Pass	
Acenaphthylene	mg/L	< 0.00001			0.00001	Pass	
Anthracene	mg/L	< 0.00001			0.00001	Pass	
Benz(a)anthracene	mg/L	< 0.00001			0.00001	Pass	
Benzo(a)pyrene	mg/L	< 0.00001			0.00001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.00001			0.00001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Chrysene	mg/L	< 0.00001			0.00001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.00001			0.00001	Pass	
Fluoranthene	mg/L	< 0.00001			0.00001	Pass	
Fluorene	mg/L	< 0.00001			0.00001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.00001			0.00001	Pass	
Naphthalene	mg/L	< 0.00001			0.00001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Phenanthrene	mg/L	< 0.00001			0.00001	Pass	
Pyrene	mg/L	< 0.00001			0.00001	Pass	
Total PAH*	mg/L	< 0			0.00001	Pass	
Method Blank							
Phenolics (total)	mg/L	< 0.05			0.05	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	85			70-130	Pass	
TRH C6-C10	%	98			70-130	Pass	
TRH >C10-C16	%	76			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	95			70-130	Pass	
TRH C10-C14	%	79			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	92			70-130	Pass	
Toluene	%	89			70-130	Pass	
Ethylbenzene	%	82			70-130	Pass	
m&p-Xylenes	%	81			70-130	Pass	
Xylenes - Total	%	82			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	114			70-130	Pass	
4.4'-DDD	%	104			70-130	Pass	
4.4'-DDE	%	105			70-130	Pass	
4.4'-DDT	%	97			70-130	Pass	
a-BHC	%	113			70-130	Pass	
Aldrin	%	94			70-130	Pass	
b-BHC	%	110			70-130	Pass	
d-BHC	%	112			70-130	Pass	
Dieldrin	%	90			70-130	Pass	
Endosulfan I	%	93			70-130	Pass	
Endosulfan II	%	104			70-130	Pass	
Endosulfan sulphate	%	94			70-130	Pass	
Endrin	%	94			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin aldehyde	%	126			70-130	Pass	
Endrin ketone	%	104			70-130	Pass	
g-BHC (Lindane)	%	124			70-130	Pass	
Heptachlor	%	95			70-130	Pass	
Heptachlor epoxide	%	97			70-130	Pass	
Hexachlorobenzene	%	114			70-130	Pass	
Methoxychlor	%	86			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	115			70-130	Pass	
Dimethoate	%	80			70-130	Pass	
Ethion	%	110			70-130	Pass	
Fenitrothion	%	103			70-130	Pass	
Methyl parathion	%	102			70-130	Pass	
Mevinphos	%	98			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	120			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Acenaphthene	%	79			70-130	Pass	
Acenaphthylene	%	77			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	99			70-130	Pass	
Benzo(a)pyrene	%	101			70-130	Pass	
Benzo(b&j)fluoranthene	%	77			70-130	Pass	
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	89			70-130	Pass	
Chrysene	%	82			70-130	Pass	
Dibenz(a.h)anthracene	%	93			70-130	Pass	
Fluoranthene	%	77			70-130	Pass	
Fluorene	%	83			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	72			70-130	Pass	
Naphthalene	%	86			70-130	Pass	
Phenanthrene	%	83			70-130	Pass	
Pyrene	%	82			70-130	Pass	
LCS - % Recovery							
Phenolics (total)	%	100			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	95			80-120	Pass	
Cadmium	%	97			80-120	Pass	
Chromium	%	97			80-120	Pass	
Copper	%	96			80-120	Pass	
Lead	%	95			80-120	Pass	
Mercury	%	95			75-125	Pass	
Nickel	%	95			80-120	Pass	
Zinc	%	97			80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	W19-Oc25712	NCP	%	90			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	W19-Oc25712	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Oc26969	CP	%	72			70-130	Pass	
TRH C6-C10	S19-Oc26969	CP	%	94			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Oc26969	CP	%	95			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Oc26969	CP	%	98			70-130	Pass	
Toluene	S19-Oc26969	CP	%	97			70-130	Pass	
Ethylbenzene	S19-Oc26969	CP	%	94			70-130	Pass	
m&p-Xylenes	S19-Oc26969	CP	%	90			70-130	Pass	
o-Xylene	S19-Oc26969	CP	%	92			70-130	Pass	
Xylenes - Total	S19-Oc26969	CP	%	91			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1					
Acenaphthene	B19-Oc28739	NCP	%	85			70-130	Pass	
Acenaphthylene	B19-Oc28739	NCP	%	91			70-130	Pass	
Anthracene	B19-Oc28739	NCP	%	81			70-130	Pass	
Benz(a)anthracene	B19-Oc28739	NCP	%	77			70-130	Pass	
Benzo(a)pyrene	B19-Oc28739	NCP	%	84			70-130	Pass	
Benzo(b&j)fluoranthene	B19-Oc28739	NCP	%	76			70-130	Pass	
Benzo(g.h.i)perylene	B19-Oc28739	NCP	%	87			70-130	Pass	
Benzo(k)fluoranthene	B19-Oc28739	NCP	%	106			70-130	Pass	
Chrysene	B19-Oc28739	NCP	%	100			70-130	Pass	
Dibenz(a.h)anthracene	B19-Oc28739	NCP	%	73			70-130	Pass	
Fluoranthene	B19-Oc28739	NCP	%	92			70-130	Pass	
Fluorene	B19-Oc28739	NCP	%	98			70-130	Pass	
Indeno(1.2.3-cd)pyrene	B19-Oc28739	NCP	%	121			70-130	Pass	
Naphthalene	B19-Oc28739	NCP	%	73			70-130	Pass	
Phenanthrene	B19-Oc28739	NCP	%	84			70-130	Pass	
Pyrene	B19-Oc28739	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDE	M19-Oc18417	NCP	%	90			70-130	Pass	
a-BHC	M19-Oc18417	NCP	%	111			70-130	Pass	
Aldrin	M19-Oc18417	NCP	%	75			70-130	Pass	
b-BHC	M19-Oc18417	NCP	%	94			70-130	Pass	
d-BHC	M19-Oc18417	NCP	%	99			70-130	Pass	
Dieldrin	M19-Oc18417	NCP	%	85			70-130	Pass	
Endosulfan I	M19-Oc18417	NCP	%	83			70-130	Pass	
Endosulfan II	M19-Oc18417	NCP	%	88			70-130	Pass	
Endrin	M19-Oc18417	NCP	%	87			70-130	Pass	
Endrin aldehyde	M19-Oc18417	NCP	%	82			70-130	Pass	
g-BHC (Lindane)	M19-Oc18417	NCP	%	122			70-130	Pass	
Heptachlor	M19-Oc18417	NCP	%	71			70-130	Pass	
Heptachlor epoxide	M19-Oc18417	NCP	%	74			70-130	Pass	
Hexachlorobenzene	M19-Oc18417	NCP	%	124			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	B19-Oc28018	NCP	%	99			70-130	Pass	
Dimethoate	B19-Oc28018	NCP	%	75			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethion	B19-Oc28018	NCP	%	90			70-130	Pass	
Fenitrothion	B19-Oc28018	NCP	%	108			70-130	Pass	
Methyl parathion	B19-Oc28018	NCP	%	91			70-130	Pass	
Mevinphos	B19-Oc28018	NCP	%	103			70-130	Pass	
Spike - % Recovery									
				Result 1					
Phenolics (total)	S19-Oc26973	CP	%	106			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S19-Oc26975	CP	%	92			70-130	Pass	
Cadmium (filtered)	S19-Oc26975	CP	%	88			70-130	Pass	
Chromium (filtered)	S19-Oc26975	CP	%	93			70-130	Pass	
Copper (filtered)	S19-Oc26975	CP	%	90			70-130	Pass	
Lead (filtered)	S19-Oc26975	CP	%	88			70-130	Pass	
Mercury (filtered)	S19-Oc26975	CP	%	80			70-130	Pass	
Nickel (filtered)	S19-Oc26975	CP	%	88			70-130	Pass	
Zinc (filtered)	S19-Oc26975	CP	%	90			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Oc26968	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S19-Oc26968	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	S19-Oc28806	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Oc26968	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	S19-Oc28806	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S19-Oc28806	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S19-Oc28806	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Oc26968	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S19-Oc26968	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S19-Oc26968	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S19-Oc26968	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S19-Oc26968	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S19-Oc26968	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons (Trace level)				Result 1	Result 2	RPD			
Acenaphthene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Acenaphthylene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Anthracene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benz(a)anthracene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(a)pyrene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(b&j)fluoranthene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(g.h.i)perylene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Benzo(k)fluoranthene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Chrysene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Dibenz(a.h)anthracene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluoranthene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Fluorene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Naphthalene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Phenanthrene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	
Pyrene	B19-Oc28738	NCP	mg/L	< 0.00001	< 0.00001	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M19-Oc24938	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4.4'-DDD	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDE	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDT	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
a-BHC	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Aldrin	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
b-BHC	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
d-BHC	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Dieldrin	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan I	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan II	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan sulphate	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin aldehyde	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin ketone	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
g-BHC (Lindane)	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor epoxide	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Hexachlorobenzene	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Methoxychlor	M19-Oc24938	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Bolstar	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorfenvinphos	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorpyrifos	M19-Oc24938	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Chlorpyrifos-methyl	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Coumaphos	M19-Oc24938	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-S	M19-Oc24938	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-O	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Diazinon	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dichlorvos	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dimethoate	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Disulfoton	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
EPN	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethion	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethoprop	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethyl parathion	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenitrothion	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fensulfothion	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenthion	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Malathion	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Merphos	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Methyl parathion	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Mevinphos	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Monocrotophos	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Naled	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Omethoate	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Phorate	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Pirimiphos-methyl	M19-Oc24938	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Pyrazophos	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ronnel	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Terbufos	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tetrachlorvinphos	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Tokuthion	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Trichloronate	M19-Oc24938	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M19-Oc24938	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Aroclor-1221	M19-Oc24938	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Aroclor-1232	M19-Oc24938	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Aroclor-1242	M19-Oc24938	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Aroclor-1248	M19-Oc24938	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Aroclor-1254	M19-Oc24938	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Aroclor-1260	M19-Oc24938	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Total PCB*	M19-Oc24938	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Phenolics (total)	S19-Oc26973	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S19-Oc26975	CP	mg/L	0.002	0.002	1.0	30%	Pass	
Cadmium (filtered)	S19-Oc26975	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	S19-Oc26975	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S19-Oc26975	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	S19-Oc26975	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	S19-Oc26975	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S19-Oc26975	CP	mg/L	0.002	0.002	4.0	30%	Pass	
Zinc (filtered)	S19-Oc26975	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised By

Ursula Long	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Julie Kay	Senior Analyst-Inorganic (VIC)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

Sydney Laboratory Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

Brisbane Laboratory Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

Perth Laboratory Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

Melbourne Laboratory 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis	Project №	10035157	Project Manager	Jack Palma
Address	580 George St Sydney	Project Name	Mirvac - Kemps Creek	EDD Format (ESdat, EQuIS etc)	ESdat, EQuIS
Contact Name	Michael Ashelford				
Phone №	0438477434				
Special Directions					
Purchase Order					
Quote ID №	191002ARCN				

Sampler(s)	M.A
Handed over by	M.A
Email for Invoice	
Email for Results	michael.ashelford@arcadis.com

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE codes must be used to attract SUITE pricing.

Containers — Change container type & size if necessary.

Required Turnaround Time — Default will be 5 days if not ticked. ♦Surcharge will apply

- ☐ Overnight (reporting by 9am)♦
- ☐ Same day♦ ☒ 1 day♦
- ☐ 2 days♦ ☐ 3 days♦
- ☐ 5 days (Standard)
- ☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Discount Suite B7LL	B151 (OCP, OPP, PCB)	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL Vial	500mL PFAS PET	Jar (Glass or HDPE)	Sample Comments / Dangerous Goods Hazard Warning
1	MW03	23/10/19	W	X	X			X	X	2			
2													
3													
4													
5													
6													
7													
8													
9													
10													
		Total Counts		1	1			1	1	2			

Method of Shipment	☐ Courier (#)	☒ Hand Delivered	☐ Postal	Name	Michael Ashelford	Signature		Date	24.10.19	Time	9:00
Eurofins | mgt Laboratory Use Only	Received By	Grace Tuckwell	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	24/10	Time	9:26	Temperature	7.57
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	684323

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

eurofins | Environment Testing

Melbourne
6 Monterey Road
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Site # 1254 & 14271

Sydney
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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Arcadis Australia**
Contact name:	Jack Palma
Project name:	MIRVAC - KEMPS CREEK
Project ID:	10035157
COC number:	Not provided
Turn around time:	1 Day
Date/Time received:	Oct 24, 2019 9:26 AM
Eurofins reference:	**684323**

Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☑ All samples have been received as described on the above COC.
- ☑ COC has been completed correctly.
- ☑ Attempt to chill was evident.
- ☑ Appropriately preserved sample containers have been used.
- ☑ All samples were received in good condition.
- ☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☑ Appropriate sample containers have been used.
- ☑ Sample containers for volatile analysis received with zero headspace.
- ☒ Split sample sent to requested external lab.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to Jack Palma - jack.palma@arcadis.com.

eurofins | Environment Testing

ABN – 50 005 085 521
e.mail : EnviroSales@eurofins.com
web : www.eurofins.com.au

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Kewdale WA 6105
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NATA # 1261
Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: MIRVAC - KEMPS CREEK
Project ID: 10035157

Order No.:
Report #: 684323
Phone: 02 8907 9000
Fax:

Received: Oct 24, 2019 9:26 AM
Due: Oct 25, 2019
Priority: 1 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Eurofins | mgt Suite B15	Eurofins | mgt Suite B7 (filtered metals/PAH trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271							X
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	MW03	Oct 23, 2019		Water	S19-Oc37310	X	X
Test Counts						1	1

eurofins | Environment Testing

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Arcadis Australia
Lvl 16/580 George Street
Sydney
NSW 2000

Attention: **Jack Palma**

Report **684323-W**
Project name MIRVAC - KEMPS CREEK
Project ID 10035157
Received Date Oct 24, 2019

Client Sample ID			**MW03**
Sample Matrix			**Water**
Eurofins Sample No.			**S19-Oc37310**
Date Sampled			**Oct 23, 2019**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	0.02	mg/L	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1
BTEX			
Benzene	0.001	mg/L	< 0.001
Toluene	0.001	mg/L	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002
o-Xylene	0.001	mg/L	< 0.001
Xylenes - Total	0.003	mg/L	< 0.003
4-Bromofluorobenzene (surr.)	1	%	83
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.01	mg/L	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	0.07
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	0.07
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1
Organochlorine Pesticides			
Chlordanes - Total	0.001	mg/L	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001

Client Sample ID			MW03
Sample Matrix			Water
Eurofins Sample No.			S19-Oc37310
Date Sampled			Oct 23, 2019
Test/Reference	LOR	Unit	
Organochlorine Pesticides			
Endrin	0.0001	mg/L	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001
Toxaphene	0.01	mg/L	< 0.01
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001
Dibutylchlorendate (surr.)	1	%	140
Tetrachloro-m-xylene (surr.)	1	%	135
Organophosphorus Pesticides			
Azinphos-methyl	0.002	mg/L	< 0.002
Bolstar	0.002	mg/L	< 0.002
Chlorfenvinphos	0.002	mg/L	< 0.002
Chlorpyrifos	0.02	mg/L	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	< 0.002
Coumaphos	0.02	mg/L	< 0.02
Demeton-S	0.02	mg/L	< 0.02
Demeton-O	0.002	mg/L	< 0.002
Diazinon	0.002	mg/L	< 0.002
Dichlorvos	0.002	mg/L	< 0.002
Dimethoate	0.002	mg/L	< 0.002
Disulfoton	0.002	mg/L	< 0.002
EPN	0.002	mg/L	< 0.002
Ethion	0.002	mg/L	< 0.002
Ethoprop	0.002	mg/L	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002
Fenitrothion	0.002	mg/L	< 0.002
Fensulfothion	0.002	mg/L	< 0.002
Fenthion	0.002	mg/L	< 0.002
Malathion	0.002	mg/L	< 0.002
Merphos	0.002	mg/L	< 0.002
Methyl parathion	0.002	mg/L	< 0.002
Mevinphos	0.002	mg/L	< 0.002
Monocrotophos	0.002	mg/L	< 0.002
Naled	0.002	mg/L	< 0.002
Omethoate	0.002	mg/L	< 0.002
Phorate	0.002	mg/L	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02
Pyrazophos	0.002	mg/L	< 0.002
Ronnel	0.002	mg/L	< 0.002
Terbufos	0.002	mg/L	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002
Tokuthion	0.002	mg/L	< 0.002

Client Sample ID			MW03
Sample Matrix			Water
Eurofins Sample No.			S19-Oc37310
Date Sampled			Oct 23, 2019
Test/Reference	LOR	Unit	
Organophosphorus Pesticides			
Trichloronate	0.002	mg/L	< 0.002
Triphenylphosphate (surr.)	1	%	20
Polychlorinated Biphenyls			
Aroclor-1016	0.005	mg/L	< 0.005
Aroclor-1221	0.001	mg/L	< 0.001
Aroclor-1232	0.005	mg/L	< 0.005
Aroclor-1242	0.005	mg/L	< 0.005
Aroclor-1248	0.005	mg/L	< 0.005
Aroclor-1254	0.005	mg/L	< 0.005
Aroclor-1260	0.005	mg/L	< 0.005
Total PCB*	0.001	mg/L	< 0.001
Dibutylchlorendate (surr.)	1	%	140
Tetrachloro-m-xylene (surr.)	1	%	135
Polycyclic Aromatic Hydrocarbons (Trace level)			
Acenaphthene	0.00001	mg/L	< 0.00001
Acenaphthylene	0.00001	mg/L	< 0.00001
Anthracene	0.00001	mg/L	< 0.00001
Benz(a)anthracene	0.00001	mg/L	< 0.00001
Benzo(a)pyrene	0.00001	mg/L	< 0.00001
Benzo(b&j)fluoranthene	0.00001	mg/L	< 0.00001
Benzo(g.h.i)perylene	0.00001	mg/L	< 0.00001
Benzo(k)fluoranthene	0.00001	mg/L	< 0.00001
Chrysene	0.00001	mg/L	< 0.00001
Dibenz(a.h)anthracene	0.00001	mg/L	< 0.00001
Fluoranthene	0.00001	mg/L	< 0.00001
Fluorene	0.00001	mg/L	< 0.00001
Indeno(1.2.3-cd)pyrene	0.00001	mg/L	< 0.00001
Naphthalene	0.00001	mg/L	< 0.00001
Phenanthrene	0.00001	mg/L	< 0.00001
Pyrene	0.00001	mg/L	< 0.00001
Total PAH*	0.00001	mg/L	< 0.00001
2-Fluorobiphenyl (surr.)	1	%	71
p-Terphenyl-d14 (surr.)	1	%	66
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Cadmium (filtered)	0.0002	mg/L	0.0003
Chromium (filtered)	0.001	mg/L	< 0.001
Copper (filtered)	0.001	mg/L	0.002
Lead (filtered)	0.001	mg/L	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001
Nickel (filtered)	0.001	mg/L	0.004
Zinc (filtered)	0.005	mg/L	0.012

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Oct 24, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Oct 24, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 24, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 24, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons (Trace level)	Melbourne	Oct 25, 2019	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water (trace)			
Metals M8 filtered	Sydney	Oct 24, 2019	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Oct 24, 2019	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Oct 24, 2019	7 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Oct 24, 2019	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			

eurofins | Environment Testing

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Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: MIRVAC - KEMPS CREEK
Project ID: 10035157

Order No.:
Report #: 684323
Phone: 02 8907 9000
Fax:

Received: Oct 24, 2019 9:26 AM
Due: Oct 25, 2019
Priority: 1 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Eurofins | mgt Suite B15	Eurofins | mgt Suite B7 (filtered metals/PAH trace level)
Melbourne Laboratory - NATA Site # 1254 & 14271							X
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	MW03	Oct 23, 2019		Water	S19-Oc37310	X	X
Test Counts						1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.001			0.001	Pass	
4.4'-DDD	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDE	mg/L	< 0.0001			0.0001	Pass	
4.4'-DDT	mg/L	< 0.0001			0.0001	Pass	
a-BHC	mg/L	< 0.0001			0.0001	Pass	
Aldrin	mg/L	< 0.0001			0.0001	Pass	
b-BHC	mg/L	< 0.0001			0.0001	Pass	
d-BHC	mg/L	< 0.0001			0.0001	Pass	
Dieldrin	mg/L	< 0.0001			0.0001	Pass	
Endosulfan I	mg/L	< 0.0001			0.0001	Pass	
Endosulfan II	mg/L	< 0.0001			0.0001	Pass	
Endosulfan sulphate	mg/L	< 0.0001			0.0001	Pass	
Endrin	mg/L	< 0.0001			0.0001	Pass	
Endrin aldehyde	mg/L	< 0.0001			0.0001	Pass	
Endrin ketone	mg/L	< 0.0001			0.0001	Pass	
g-BHC (Lindane)	mg/L	< 0.0001			0.0001	Pass	
Heptachlor	mg/L	< 0.0001			0.0001	Pass	
Heptachlor epoxide	mg/L	< 0.0001			0.0001	Pass	
Hexachlorobenzene	mg/L	< 0.0001			0.0001	Pass	
Methoxychlor	mg/L	< 0.0001			0.0001	Pass	
Toxaphene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/L	< 0.002			0.002	Pass	
Bolstar	mg/L	< 0.002			0.002	Pass	
Chlorfenvinphos	mg/L	< 0.002			0.002	Pass	
Chlorpyrifos	mg/L	< 0.02			0.02	Pass	
Chlorpyrifos-methyl	mg/L	< 0.002			0.002	Pass	
Coumaphos	mg/L	< 0.02			0.02	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Demeton-S	mg/L	< 0.02			0.02	Pass	
Demeton-O	mg/L	< 0.002			0.002	Pass	
Diazinon	mg/L	< 0.002			0.002	Pass	
Dichlorvos	mg/L	< 0.002			0.002	Pass	
Dimethoate	mg/L	< 0.002			0.002	Pass	
Disulfoton	mg/L	< 0.002			0.002	Pass	
EPN	mg/L	< 0.002			0.002	Pass	
Ethion	mg/L	< 0.002			0.002	Pass	
Ethoprop	mg/L	< 0.002			0.002	Pass	
Ethyl parathion	mg/L	< 0.002			0.002	Pass	
Fenitrothion	mg/L	< 0.002			0.002	Pass	
Fensulfothion	mg/L	< 0.002			0.002	Pass	
Fenthion	mg/L	< 0.002			0.002	Pass	
Malathion	mg/L	< 0.002			0.002	Pass	
Merphos	mg/L	< 0.002			0.002	Pass	
Methyl parathion	mg/L	< 0.002			0.002	Pass	
Mevinphos	mg/L	< 0.002			0.002	Pass	
Monocrotophos	mg/L	< 0.002			0.002	Pass	
Naled	mg/L	< 0.002			0.002	Pass	
Omethoate	mg/L	< 0.002			0.002	Pass	
Phorate	mg/L	< 0.002			0.002	Pass	
Pirimiphos-methyl	mg/L	< 0.02			0.02	Pass	
Pyrazophos	mg/L	< 0.002			0.002	Pass	
Ronnel	mg/L	< 0.002			0.002	Pass	
Terbufos	mg/L	< 0.002			0.002	Pass	
Tetrachlorvinphos	mg/L	< 0.002			0.002	Pass	
Tokuthion	mg/L	< 0.002			0.002	Pass	
Trichloronate	mg/L	< 0.002			0.002	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/L	< 0.005			0.005	Pass	
Aroclor-1221	mg/L	< 0.001			0.001	Pass	
Aroclor-1232	mg/L	< 0.005			0.005	Pass	
Aroclor-1242	mg/L	< 0.005			0.005	Pass	
Aroclor-1248	mg/L	< 0.005			0.005	Pass	
Aroclor-1254	mg/L	< 0.005			0.005	Pass	
Aroclor-1260	mg/L	< 0.005			0.005	Pass	
Total PCB*	mg/L	< 0.001			0.001	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons (Trace level)							
Total PAH*	mg/L	< 0			0.00001	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	100			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	78			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	95			70-130	Pass	
Toluene	%	92			70-130	Pass	
Ethylbenzene	%	90			70-130	Pass	
m&p-Xylenes	%	89			70-130	Pass	
o-Xylene	%	93			70-130	Pass	
Xylenes - Total	%	90			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	86			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
TRH >C10-C16	%	84			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	99			70-130	Pass	
4.4'-DDD	%	103			70-130	Pass	
4.4'-DDE	%	104			70-130	Pass	
4.4'-DDT	%	92			70-130	Pass	
a-BHC	%	88			70-130	Pass	
Aldrin	%	97			70-130	Pass	
b-BHC	%	101			70-130	Pass	
d-BHC	%	93			70-130	Pass	
Dieldrin	%	103			70-130	Pass	
Endosulfan I	%	105			70-130	Pass	
Endosulfan II	%	102			70-130	Pass	
Endosulfan sulphate	%	95			70-130	Pass	
Endrin	%	106			70-130	Pass	
Endrin aldehyde	%	91			70-130	Pass	
Endrin ketone	%	101			70-130	Pass	
g-BHC (Lindane)	%	94			70-130	Pass	
Heptachlor	%	91			70-130	Pass	
Heptachlor epoxide	%	104			70-130	Pass	
Hexachlorobenzene	%	83			70-130	Pass	
Methoxychlor	%	95			70-130	Pass	
Toxaphene	%	101			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	90			70-130	Pass	
Dimethoate	%	87			70-130	Pass	
Ethion	%	115			70-130	Pass	
Fenitrothion	%	90			70-130	Pass	
Methyl parathion	%	90			70-130	Pass	
Mevinphos	%	116			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	86			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	100			70-130	Pass	
Cadmium (filtered)	%	100			70-130	Pass	
Chromium (filtered)	%	101			70-130	Pass	
Copper (filtered)	%	100			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead (filtered)			%	100			70-130	Pass	
Mercury (filtered)			%	93			70-130	Pass	
Nickel (filtered)			%	100			70-130	Pass	
Zinc (filtered)			%	97			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S19-Oc38762	NCP	%	116			70-130	Pass	
Cadmium (filtered)	S19-Oc38762	NCP	%	97			70-130	Pass	
Chromium (filtered)	S19-Oc38762	NCP	%	95			70-130	Pass	
Copper (filtered)	S19-Oc38762	NCP	%	86			70-130	Pass	
Lead (filtered)	S19-Oc38762	NCP	%	92			70-130	Pass	
Mercury (filtered)	S19-Oc38762	NCP	%	100			70-130	Pass	
Nickel (filtered)	S19-Oc38762	NCP	%	83			70-130	Pass	
Zinc (filtered)	S19-Oc38762	NCP	%	84			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S19-Oc37310	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium (filtered)	S19-Oc37310	CP	mg/L	0.0003	0.0003	13	30%	Pass	
Chromium (filtered)	S19-Oc37310	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S19-Oc37310	CP	mg/L	0.002	0.002	11	30%	Pass	
Lead (filtered)	S19-Oc37310	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	S19-Oc37310	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S19-Oc37310	CP	mg/L	0.004	0.004	3.0	30%	Pass	
Zinc (filtered)	S19-Oc37310	CP	mg/L	0.012	0.011	13	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
Joseph Edouard	Senior Analyst-Organic (VIC)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

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☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis	Project №	10035157
Address	Level 16 580 George Street, Sydney	Project Name	Mirvac - Kemps Creek
Contact Name	Michael Ashelford	Project Manager	Jack Palma
Phone №	438477434	EDD Format (ESdat, EQuIS etc)	Esdat, Equis.
Special Directions	Please sent QA2 to ALS for duplicate analysis.	Sampler(s)	Michael Ashelford
Purchase Order		Handed over by	Michael Ashelford
Quote ID №	191002ARCN	Email for Invoice	Jack.palma@arcadis.com, au.accounts.payable@arcadis
		Email for Results	michael.ashelford@arcadis.com, Jack.palma@arcadis.co

Analyses (Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.)

Containers (Change container type & size if necessary.)

Required Turnaround Time (TAT) (Default will be 5 days if not ticked.)

☐ Overnight (reporting by 9am)♦ ☐ Same day♦ ☐ 1 day♦ ☐ 2 days♦ ☐ 3 days♦ ☑ 5 days (Standard) ☐ Other( )

♦Surcharge will apply

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Eurofins Discounted Suite B7LL - TRH, BTEXN, PAH (Trace Level), Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	Rinsate - Eurofins Discounted Suite: M81 Metals (As, Cd, Cr, Cu, Ni, Pb, Zn, Hg)	Trip Blank/ Trip Spike - TRH (C6-C10) & BTEX	500mL Plastic	250mL Plastic	125mL Plastic	1L or 200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	QA1	16.10.19	W	X					1	1	2				
2	(1) QA2	16.10.20	W	X					1	1	2				Please send to ALS
3	Rinsate	16.10.21	W		X				1	1	2				
4	Trip Spike	16.10.22	W			X					4				
5	Trip Blank	16.10.23	W			X					4				
6															
7															
8															
9															
10															
			Total Counts	2	1	2			3	3	14				

Environmental Division Sydney
Work Order Reference
ES1934247

Telephone : + 61-2-8784 8555

Method of Shipment ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name: Michael Ashelford Signature: Date: 17.10.2019 Time: 1000

Shabila 18/10/19 03:40PM 16.6°C

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES1934247**

Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR MICHAEL ASHELFORD	Contact	: Loren Schiavon
Address	: LEVEL 16, 580 GEORGE STREET SYDNEY NSW 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: michael.ashelford@arcadis.com	E-mail	: Loren.Schiavon@ALSGlobal.com
Telephone	: ----	Telephone	: +61 2 8784 8555
Facsimile	: ----	Facsimile	: +61-2-8784 8500
Project	: 10035157 Mirvac - Kemps Creek	Page	: 1 of 2
Order number	: ----	Quote number	: EM2017HYDCON0003 (EN/333 - Secondary Work)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: MICHAEL ASHELFORD		

Dates

Date Samples Received	: 18-Oct-2019 13:30	Issue Date	: 21-Oct-2019
Client Requested Due Date	: 28-Oct-2019	Scheduled Reporting Date	: **28-Oct-2019**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 16.6'C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 1 / 1

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - EP132B(PAH) Ultra Trace Polynuclear Aromatic Compounds	WATER - W-05 TRH/BTEXN/8 Metals
ES1934247-001	16-Oct-2019 00:00	QA2	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

Arcadis Account Payable		
- A4 - AU Tax Invoice (INV)	Email	AU.Accounts.Payable@arcadis.com
JACK PALMA		
- *AU Certificate of Analysis - NATA (COA)	Email	jack.palma@arcadis.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jack.palma@arcadis.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jack.palma@arcadis.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jack.palma@arcadis.com
- A4 - AU Tax Invoice (INV)	Email	jack.palma@arcadis.com
- Chain of Custody (CoC) (COC)	Email	jack.palma@arcadis.com
- EDI Format - ENMRG (ENMRG)	Email	jack.palma@arcadis.com
- EDI Format - ESDAT (ESDAT)	Email	jack.palma@arcadis.com
MICHAEL ASHELFORD		
- *AU Certificate of Analysis - NATA (COA)	Email	michael.ashelford@arcadis.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	michael.ashelford@arcadis.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	michael.ashelford@arcadis.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	michael.ashelford@arcadis.com
- Chain of Custody (CoC) (COC)	Email	michael.ashelford@arcadis.com
- EDI Format - ENMRG (ENMRG)	Email	michael.ashelford@arcadis.com
- EDI Format - ESDAT (ESDAT)	Email	michael.ashelford@arcadis.com

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1934247**	Page	: 1 of 5
Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR MICHAEL ASHELFORD	Contact	: Loren Schiavon
Address	: LEVEL 16, 580 GEORGE STREET SYDNEY NSW 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 10035157 Mirvac - Kemps Creek	Date Samples Received	: 18-Oct-2019 13:30
Order number	: ----	Date Analysis Commenced	: 21-Oct-2019
C-O-C number	: ----	Issue Date	: 28-Oct-2019 13:30
Sampler	: MICHAEL ASHELFORD		
Site	: ----		
Quote number	: EN/333 - Secondary Work		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Total PAH reported as the sum of Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benz(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene and Benzo(g,h,i)perylene.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	QA2	----	----	----	----
			Client sampling date / time	16-Oct-2019 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1934247-001	--------	--------	--------	--------
				Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	**0.004**	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	----	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	----	----	----	----
Copper	7440-50-8	0.001	mg/L	<0.001	----	----	----	----
Nickel	7440-02-0	0.001	mg/L	**0.004**	----	----	----	----
Lead	7439-92-1	0.001	mg/L	<0.001	----	----	----	----
Zinc	7440-66-6	0.005	mg/L	**0.028**	----	----	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L	<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L	<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L	<50	----	----	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	----	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L	<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L	<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L	<100	----	----	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	----	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	----	----	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	----	----	----	----
Toluene	108-88-3	2	µg/L	<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L	<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L	<2	----	----	----	----
^ Total Xylenes	----	2	µg/L	<2	----	----	----	----
^ Sum of BTEX	----	1	µg/L	<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L	<5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	QA2	----	----	----	----
			Client sampling date / time	16-Oct-2019 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1934247-001	--------	--------	--------	--------
				Result	----	----	----	----
EP132B: Polynuclear Aromatic Hydrocarbons								
3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	----	----	----	----
2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	----	----	----	----
Acenaphthene	83-32-9	0.1	µg/L	<0.1	----	----	----	----
Acenaphthylene	208-96-8	0.1	µg/L	<0.1	----	----	----	----
Anthracene	120-12-7	0.1	µg/L	<0.1	----	----	----	----
Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	----	----	----	----
Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	----	----	----	----
Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	----	----	----	----
Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	----	----	----	----
Chrysene	218-01-9	0.1	µg/L	<0.1	----	----	----	----
Coronene	191-07-1	0.1	µg/L	<0.1	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	----	----	----	----
Fluoranthene	206-44-0	0.1	µg/L	<0.1	----	----	----	----
Fluorene	86-73-7	0.1	µg/L	<0.1	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	----	----	----	----
Naphthalene	91-20-3	0.1	µg/L	<0.1	----	----	----	----
Perylene	198-55-0	0.1	µg/L	<0.1	----	----	----	----
Phenanthrene	85-01-8	0.1	µg/L	<0.1	----	----	----	----
Pyrene	129-00-0	0.1	µg/L	<0.1	----	----	----	----
^ Sum of PAHs	----	0.05	µg/L	<0.05	----	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.05	µg/L	<0.05	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**103**	----	----	----	----
Toluene-D8	2037-26-5	2	%	**110**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%	**117**	----	----	----	----
EP132T: Base/Neutral Extractable Surrogates								
2-Fluorobiphenyl	321-60-8	0.1	%	**68.1**	----	----	----	----
Anthracene-d10	1719-06-8	0.1	%	**79.1**	----	----	----	----
4-Terphenyl-d14	1718-51-0	0.1	%	**84.4**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP132T: Base/Neutral Extractable Surrogates			
2-Fluorobiphenyl	321-60-8	43	135
Anthracene-d10	1719-06-8	48	138
4-Terphenyl-d14	1718-51-0	48	144

QUALITY CONTROL REPORT

Work Order	: **ES1934247**	Page	: 1 of 8
Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR MICHAEL ASHELFORD	Contact	: Loren Schiavon
Address	: LEVEL 16, 580 GEORGE STREET SYDNEY NSW 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +61 2 8784 8555
Project	: 10035157 Mirvac - Kemps Creek	Date Samples Received	: 18-Oct-2019
Order number	: ----	Date Analysis Commenced	: 21-Oct-2019
C-O-C number	: ----	Issue Date	: 28-Oct-2019
Sampler	: MICHAEL ASHELFORD		
Site	: ----		
Quote number	: EN/333 - Secondary Work		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020F: Dissolved Metals by ICP-MS (QC Lot: 2659220)									
ES1934628-002	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.010	0.011	0.00	No Limit
ES1934572-001	Anonymous	EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.008	0.009	0.00	No Limit
		EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-F: Nickel	7440-02-0	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-F: Zinc	7440-66-6	0.005	mg/L	0.018	0.016	9.01	No Limit
EG035F: Dissolved Mercury by FIMS (QC Lot: 2659221)									
ES1934488-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
ES1934628-001	Anonymous	EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2653103)									
ES1934247-001	QA2	EP071: C15 - C28 Fraction	----	100	µg/L	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	µg/L	<50	<50	0.00	No Limit
		EP071: C29 - C36 Fraction	----	50	µg/L	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2654627)									
ES1934338-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	250	240	4.75	0% - 50%
ES1934339-002	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	70	70	0.00	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2653103)									
ES1934247-001	QA2	EP071: >C10 - C16 Fraction	----	100	µg/L	<100	<100	0.00	No Limit
		EP071: >C16 - C34 Fraction	----	100	µg/L	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	µg/L	<100	<100	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2654627)									
ES1934338-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
ES1934339-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	70	70	0.00	No Limit
EP080: BTEXN (QC Lot: 2654627)									
ES1934338-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
ES1934339-002	Anonymous	EP080: Benzene	71-43-2	1	µg/L	4	4	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2653104)									
ES1934247-001	QA2	EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	<0.05	0.00	No Limit
		EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Coronene	191-07-1	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	<0.1	0.00	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP132B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2653104) - continued									
ES1934247-001	QA2	EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Perylene	198-55-0	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	<0.1	0.00	No Limit
		EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	<0.1	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 2659220)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	89.3	85.0	114
EG020A-F: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	89.2	84.0	110
EG020A-F: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	89.2	85.0	111
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	94.0	81.0	111
EG020A-F: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	87.8	83.0	111
EG020A-F: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	89.0	82.0	112
EG020A-F: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	88.3	81.0	117
EG035F: Dissolved Mercury by FIMS (QCLot: 2659221)								
EG035F: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	98.1	83.0	105
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2653103)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	2000 µg/L	79.9	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	3000 µg/L	94.1	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	2000 µg/L	75.0	56.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2654627)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	87.2	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2653103)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	2500 µg/L	85.9	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	3500 µg/L	87.2	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1500 µg/L	68.7	61.5	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2654627)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	82.9	75.0	127
EP080: BTEXN (QCLot: 2654627)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	84.9	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	85.9	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	88.5	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	85.7	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	85.5	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	91.3	70.0	120
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2653104)								
EP132: 3-Methylcholanthrene	56-49-5	0.1	µg/L	<0.1	2 µg/L	97.1	60.0	120
EP132: 2-Methylnaphthalene	91-57-6	0.1	µg/L	<0.1	2 µg/L	73.0	59.0	123
EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	0.1	µg/L	<0.1	2 µg/L	77.0	36.0	144

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2653104) - continued								
EP132: Acenaphthene	83-32-9	0.1	µg/L	<0.1	2 µg/L	77.3	64.0	122
EP132: Acenaphthylene	208-96-8	0.1	µg/L	<0.1	2 µg/L	81.0	64.0	126
EP132: Anthracene	120-12-7	0.1	µg/L	<0.1	2 µg/L	69.6	65.0	127
EP132: Benz(a)anthracene	56-55-3	0.1	µg/L	<0.1	2 µg/L	92.2	64.0	130
EP132: Benzo(a)pyrene	50-32-8	0.05	µg/L	<0.05	2 µg/L	92.4	64.0	126
EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.1	µg/L	<0.1	2 µg/L	86.8	62.0	126
EP132: Benzo(e)pyrene	192-97-2	0.1	µg/L	<0.1	2 µg/L	75.1	62.0	126
EP132: Benzo(g.h.i)perylene	191-24-2	0.1	µg/L	<0.1	2 µg/L	93.5	56.0	126
EP132: Benzo(k)fluoranthene	207-08-9	0.1	µg/L	<0.1	2 µg/L	86.6	68.0	130
EP132: Chrysene	218-01-9	0.1	µg/L	<0.1	2 µg/L	86.9	66.0	130
EP132: Coronene	191-07-1	0.1	µg/L	<0.1	2 µg/L	100	35.0	133
EP132: Dibenz(a.h)anthracene	53-70-3	0.1	µg/L	<0.1	2 µg/L	96.8	58.0	128
EP132: Fluoranthene	206-44-0	0.1	µg/L	<0.1	2 µg/L	85.9	65.0	127
EP132: Fluorene	86-73-7	0.1	µg/L	<0.1	2 µg/L	79.1	64.0	124
EP132: Indeno(1.2.3.cd)pyrene	193-39-5	0.1	µg/L	<0.1	2 µg/L	97.3	57.0	127
EP132: Naphthalene	91-20-3	0.1	µg/L	<0.1	2 µg/L	66.6	54.0	128
EP132: Perylene	198-55-0	0.1	µg/L	<0.1	2 µg/L	109	66.0	130
EP132: Phenanthrene	85-01-8	0.1	µg/L	<0.1	2 µg/L	79.6	65.0	129
EP132: Pyrene	129-00-0	0.1	µg/L	<0.1	2 µg/L	83.1	66.0	128

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 2659220)							
ES1934530-001	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	88.7	70.0	130
		EG020A-F: Cadmium	7440-43-9	0.25 mg/L	89.7	70.0	130
		EG020A-F: Chromium	7440-47-3	1 mg/L	93.5	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	98.3	70.0	130
		EG020A-F: Lead	7439-92-1	1 mg/L	93.8	70.0	130
		EG020A-F: Nickel	7440-02-0	1 mg/L	88.0	70.0	130
		EG020A-F: Zinc	7440-66-6	1 mg/L	89.5	70.0	130
EG035F: Dissolved Mercury by FIMS (QCLot: 2659221)							
ES1934247-001	QA2	EG035F: Mercury	7439-97-6	0.01 mg/L	94.3	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2653103)							
ES1934247-001	QA2	EP071: C10 - C14 Fraction	----	200 µg/L	103	70.0	130
		EP071: C15 - C28 Fraction	----	250 µg/L	116	71.0	130
		EP071: C29 - C36 Fraction	----	200 µg/L	83.0	67.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2654627)							
ES1934338-002	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	90.7	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2653103)							
ES1934247-001	QA2	EP071: >C10 - C16 Fraction	----	250 µg/L	80.2	70.0	130
		EP071: >C16 - C34 Fraction	----	350 µg/L	92.8	75.0	130
		EP071: >C34 - C40 Fraction	----	150 µg/L	105	67.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2654627)							
ES1934338-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	93.0	70.0	130
EP080: BTEXN (QCLot: 2654627)							
ES1934338-002	Anonymous	EP080: Benzene	71-43-2	25 µg/L	90.3	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	96.6	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	98.2	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	96.8	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	100	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	101	70.0	130
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2653104)							
ES1934247-001	QA2	EP132: 3-Methylcholanthrene	56-49-5	2 µg/L	104	59.0	115
		EP132: 2-Methylnaphthalene	91-57-6	2 µg/L	78.2	46.0	120
		EP132: 7.12-Dimethylbenz(a)anthracene	57-97-6	2 µg/L	81.9	21.0	135
		EP132: Acenaphthene	83-32-9	2 µg/L	82.1	62.0	114
		EP132: Acenaphthylene	208-96-8	2 µg/L	87.7	61.0	119
		EP132: Anthracene	120-12-7	2 µg/L	73.1	68.0	116
		EP132: Benz(a)anthracene	56-55-3	2 µg/L	98.1	67.0	122
		EP132: Benzo(a)pyrene	50-32-8	2 µg/L	101	72.0	114
		EP132: Benzo(b+j)fluoranthene	205-99-2 205-82-3	2 µg/L	92.0	69.0	119
		EP132: Benzo(e)pyrene	192-97-2	2 µg/L	79.4	71.0	119
		EP132: Benzo(g.h.i)perylene	191-24-2	2 µg/L	98.9	49.0	133
		EP132: Benzo(k)fluoranthene	207-08-9	2 µg/L	91.0	71.0	124
		EP132: Chrysene	218-01-9	2 µg/L	91.9	70.0	118
		EP132: Coronene	191-07-1	2 µg/L	106	29.0	138
		EP132: Dibenz(a.h)anthracene	53-70-3	2 µg/L	102	60.0	122
		EP132: Fluoranthene	206-44-0	2 µg/L	91.2	65.0	121
		EP132: Fluorene	86-73-7	2 µg/L	83.4	63.0	118

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP132B: Polynuclear Aromatic Hydrocarbons (QCLot: 2653104) - continued							
ES1934247-001	QA2	EP132: Indeno(1.2.3.cd)pyrene	193-39-5	2 µg/L	103	57.0	123
		EP132: Naphthalene	91-20-3	2 µg/L	71.2	53.0	115
		EP132: Perylene	198-55-0	2 µg/L	111	71.0	118
		EP132: Phenanthrene	85-01-8	2 µg/L	83.5	67.0	120
		EP132: Pyrene	129-00-0	2 µg/L	87.9	70.0	117

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1934247**	Page	: 1 of 4
Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR MICHAEL ASHELFORD	Telephone	: +61 2 8784 8555
Project	: 10035157 Mirvac - Kemps Creek	Date Samples Received	: 18-Oct-2019
Site	: ----	Issue Date	: 28-Oct-2019
Sampler	: MICHAEL ASHELFORD	No. of samples received	: 1
Order number	: ----	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EG020F: Dissolved Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)							
QA2	**16-Oct-2019**	**----**	----	----	**23-Oct-2019**	13-Apr-2020	✓
EG035F: Dissolved Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Filtered (EG035F)							
QA2	**16-Oct-2019**	**----**	----	----	**24-Oct-2019**	13-Nov-2019	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QA2	**16-Oct-2019**	**21-Oct-2019**	23-Oct-2019	✓	**23-Oct-2019**	30-Nov-2019	✓
Clear glass VOC vial - HCl (EP080)							
QA2	**16-Oct-2019**	**24-Oct-2019**	30-Oct-2019	✓	**24-Oct-2019**	30-Oct-2019	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QA2	**16-Oct-2019**	**21-Oct-2019**	23-Oct-2019	✓	**23-Oct-2019**	30-Nov-2019	✓
Clear glass VOC vial - HCl (EP080)							
QA2	**16-Oct-2019**	**24-Oct-2019**	30-Oct-2019	✓	**24-Oct-2019**	30-Oct-2019	✓
EP080: BTEXN							
Clear glass VOC vial - HCl (EP080)							
QA2	**16-Oct-2019**	**24-Oct-2019**	30-Oct-2019	✓	**24-Oct-2019**	30-Oct-2019	✓
EP132B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP132)							
QA2	**16-Oct-2019**	**21-Oct-2019**	23-Oct-2019	✓	**23-Oct-2019**	30-Nov-2019	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Mercury by FIMS	EG035F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Mercury by FIMS	EG035F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Dissolved Metals by ICP-MS - Suite A	EG020A-F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Dissolved Mercury by FIMS	EG035F	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) Samples are 0.45µm filtered prior to analysis. FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the filtered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
Semivolatile Compounds by GCMS(SIM - Ultra-trace)	EP132	WATER	In house: Referenced to USEPA 3640 (GPC Cleanup), 8270D GCMS Capiliary column, SIM mode. This method is compliant with NEPM (2013) Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Sep. Funnel Extraction /Acetylation of Phenolic Compounds	ORG14-AC	WATER	In house: Referenced to USEPA 3510 (Extraction) / In-house (Acetylation): A 1L sample is extracted into dichloromethane and concentrated to 1 mL with echange into cyclohexane. Phenolic compounds are reacted with acetic anhydride to yield phenyl acetates suitable for ultra-trace analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging.

CHAIN OF CUSTODY RECORD

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☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172

☐ **Perth Laboratory** Unit 2 81 Leach Highway Kewdale WA 6105

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175

Company	Arcadis Australia Pacific	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street, Sydney, NSW	Project №		EDD Format (Esdat, EQuIS etc)	Esdat + Equis
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions	Samples send without COC				
Purchase Order	10035157 - task 1				
Quote ID №	191002ARCN				

Sampler(s)	Tom Keatley / Michael Ashelford
Handed over by	Tom Keatley (by Courier)
Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Required Turnaround Time (TAT) — Default will be 5 days if not ticked

*Surcharge will apply

- ☐ Overnight (reporting by 3am)*
- ☐ Same day* ☐ 1 day*
- ☐ 2 days* ☐ 3 days*
- ☑ 5 days (Standard)
- ☐ Other( )

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE codes must be used to attract SUITE pricing

Containers — Change container type & size if necessary

№	Client Sample ID	Sampled Date/Time dd/mm/yyyy hh:mm	Matrix Solid (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	MW01_0.2	8/10/19	Soil	X	X	X											
2	MW01_0.5	8/10/19	Soil					X									
3	MW01_1	8/10/19	Soil					X									
4	MW01_2	8/10/19	Soil	X													
5	MW01_3	8/10/19	Soil					X									
6	MW01_4	8/10/19	Soil					X									
7	MW01_5	8/10/19	Soil					X									
8	MW01_6	8/10/19	Soil					X									
9	MW01_7	8/10/19	Soil					X									
10	MW01_8	8/10/19	Soil					X									
11	MW02_0.2	8/10/19	Soil	X	X	X											
12	MW02_0.5	8/10/19	Soil					X									
13	MW02_1	8/10/19	Soil	X													
14	MW02_2	8/10/19	Soil					X									
15	MW02_3	8/10/19	Soil					X									
16	MW02_4	8/10/19	Soil					X									
17	MW02_5	8/10/19	Soil					X									
18	MW02_6	8/10/19	Soil					X									
19	MW02_7	8/10/19	Soil					X									
20	MW02_10	9/10/19	Soil					X									
			Total Counts														

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal — Name — Signature — Date — Time

Laboratory Use Only							
Received By	Elvis D	SYD / BNE / MEL / PER / ADL / NTL / DRW	Signature	Date 14/10/19	Time 11:37Am	Temperature	3.4°C
Received By		SYD / BNE / MEL / PER / ADL / NTL / DRW	Signature	Date	Time	Report №	682206

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☐ Perth Laboratory — Unit 2 91 Leach Highway Kewdale WA 6105
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Address	Level 16, 580 George Street, Sydney, NSW	Project №		EDD Format (ESdat, EQuIS etc)	Esdat + Equis
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions	Samples send without COC				
Purchase Order	10035157 - task 1				
Quote ID №	191002ARCN				

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Handed over by	Tom Keatley (by Courier)
Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Analyses: Where metals are requested please specify "Total" or "Filtered" SUITE code must be used to attract SUITE pricing

Containers: Change container type & size if necessary

Required Turnaround Time (TAT): Default will be 5 days if not ticked

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other (

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	MW03_0.2	9/10/19	Soil	X	X	X											
2	MW03_0.5	9/10/19	Soil					X									
3	MW03_1.2	9/10/19	Soil	X													
4	MW03_2	9/10/19	Soil					X									
5	MW03_2.7	9/10/19	Soil					X									
6	MW03_4	9/10/19	Soil					X									
7	MW03_5	9/10/19	Soil					X									
8	MW03_6.5	9/10/19	Soil					X									
9	MW04_0.1	9/10/19	Soil					X									
10	MW04_0.2	9/10/19	Soil	X	X	X											
11	MW04_0.5	9/10/19	Soil					X									
12	MW04_1	9/10/19	Soil					X									
13	MW04_2	9/10/19	Soil	X													
14	MW04_3	9/10/19	Soil					X									
15	MW04_4	9/10/19	Soil					X									
16	MW04_5	9/10/19	Soil					X									
17	MW04_6	9/10/19	Soil					X									
18	MW04_7	9/10/19	Soil					X									
19	MW04_8	9/10/19	Soil					X									
20	MW05_0.2	9/10/19	Soil	X	X	X											
			Total Counts														

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal — Name — Signature — Date — Time

Laboratory Use Only									
Received By	Elvis D	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	[signature]	Date	14/10	Time	11:37 Am	Temperature 3.4°C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report № 682206

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☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Australia Pacific	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street, Sydney, NSW	Project №		EDD Format (Esdat, EQuIS etc)	Esdat + Equis
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions	Samples send without COC				
Purchase Order	10035157 - task 1				
Quote ID №	191002ARCN				

Sampler(s)	Tom Keatley / Michael Ashelford
Handed over by	Tom Keatley (by Courier)
Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Required Turnaround Time (TAT) — Default will be 5 days if not ticked. *Surcharge will apply

☐ Overnight (reporting by 9am)*
☐ Same day* ☐ 1 day*
☐ 2 days* ☐ 3 days*
☑ 5 days (Standard)
☐ Other( )

Analyses — Where metals are requested please specify 'Total' or 'Filtered'. ISO/IEC code must be used to select SWTL pricing

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	MW05_0.5	9/10/19	Soil					X									
2	MW05_1	9/10/19	Soil	X	X	X											
3	MW05_2	9/10/19	Soil					X									
4	MW05_3	9/10/19	Soil					X									
5	MW05_4	9/10/19	Soil					X									
6	MW05_5	9/10/19	Soil					X									
7	MW05_6	9/10/19	Soil					X									
8	MW05_7	9/10/19	Soil					X									
9	MW05_8	9/10/19	Soil					X									
10	MW05_10	9/10/19	Soil					X									
11	MW06_0.2	9/10/19	Soil	X	X	X											
12	MW06_0.5	9/10/19	Soil	X													
13	MW06_1	9/10/19	Soil					X									
14	MW06_2	8/10/19	Soil					X									
15	MW06_4	8/10/19	Soil					X									
16	QA001_TK	8/10/19	Soil	X	X												
17	QA002_TK	9/10/19	Soil	X	X												Please forward to ALS
18	QA003_TK	9/10/19	Soil					X									
19	QA004_TK	8/10/19	Soil					X									
20	QA1	8/10/19	Soil	X	X												
	Total Counts																

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal | Name | Signature | Date | Time

Laboratory Use Only									
Received By	Elvis D	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date 14/10	Time 11:37am	Temperature 3.4°C	
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report № 682206	

Eurofins Environment Testing Australia Pty Ltd

Modified by Dr P Tamsett. Approved by G Jackson. Approved on 8 August 2019

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☐ Overnight (reporting by 9am)*
☐ Same day* ☐ 1 day*
☐ 2 days* ☐ 3 days*
☑ 5 days (Standard)
☐ Other( )

Analyses — Where metals are requested please specify "Total" or "Filtered". SOIL cases must be used to select S/P/E pricing

Containers — Change container type & size if necessary.

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	QA2	8/10/19	Soil	X	X												Please forward to ALS
2	TP101_0.2	8/10/19	Soil	X	X												
3	TP101_0.5	8/10/19	Soil	X													
4	TP101_1	8/10/19	Soil					X									
5	TP101 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
6	TP102_0.2	9/10/19	Soil	X	X												
7	TP102_0.5	8/10/19	Soil	X													
8	TP102_1	8/10/19	Soil					X									
9	TP102 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
10	TP103_0.2	8/10/19	Soil	X	X												
11	TP103_0.5	8/10/19	Soil					X									
12	TP103_1	8/10/19	Soil	X													
13	TP103 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
14	TP104_0.2	8/10/19	Soil	X	X												
15	TP104_0.5	8/10/19	Soil					X									
16	TP104_1	8/10/19	Soil	X													
17	TP104_1.5	8/10/19	Soil					X									
18	TP104 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
19	TP105_0.2	8/10/19	Soil	X	X												
20	TP105_0.5	8/10/19	Soil					X									
	Total Counts																

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal — Name | Signature | Date | Time

Laboratory Use Only

Received By	Elvis D	SYD / BNE / MEL / PER / ADL / NTL / DRW	Signature	Date 14/10	Time 11:37AM	Temperature 3.4°C	
Received By		SYD / BNE / MEL / PER / ADL / NTL / DRW	Signature	Date	Time	Report № 682206	

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | Environment Testing Standard Terms and Conditions unless agreed otherwise. A copy is available on request.

CHAIN OF CUSTODY RECORD

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☑ **Sydney Laboratory** Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066 (02 9900 8400) EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 (07 3902 4600) EnviroSampleQld@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 (08 9251 9600) EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 (03 8564 5000) EnviroSampleVic@eurofins.com

Company	Arcadis Australia Pacific	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street, Sydney, NSW	Project №		EDD Format (ESdat, EQuIS etc)	Esdat + Equis
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions	Samples send without COC				
Purchase Order	10035157 - task 1				
Quote ID №	191002ARCN				

Sampler(s)	Tom Keatley / Michael Ashelford
Handed over by	Tom Keatley (by Courier)
Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Containers (Change container type & size if necessary)

Required Turnaround Time (TAT) (Default will be 5 days if not ticked)

*Surcharge will apply

☐ Overnight (reporting by 9am)*
☐ Same day* ☐ 1 day*
☐ 2 days* ☐ 3 days*
☑ 5 days (Standard)
☐ Other(

Analyses: Where metals are requested please specify "Total" or "Filtered" 8/11/E codes must be used to attract SUITE pricing

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP105_1	8/10/19	Soil	X													
2	TP105 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
3	TP106_0.2	8/10/19	Soil	X	X												
4	TP106_0.5	8/10/19	Soil	X													
5	TP106_1	8/10/19	Soil					X									
6	TP106 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
7	TP107_0.2	8/10/19	Soil	X	X												
8	TP107_0.5	8/10/19	Soil	X													
9	TP107_1	8/10/19	Soil					X									
10	TP107 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
11	TP108_0.2	8/10/19	Soil	X	X												
12	TP108_0.5	8/10/19	Soil	X													
13	TP108_1	8/10/19	Soil					X									
14	TP108 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
15	TP109_0.2	8/10/19	Soil	X	X												
16	TP109_0.5	8/10/19	Soil	X													
17	TP109_1	8/10/19	Soil					X									
18	TP109 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
19	TP110_0.5	8/10/19	Soil					X									
20	TP110_1	8/10/19	Soil	X													
			Total Counts														

Method of Shipment	☐ Courier (#	☐ Hand Delivered	☐ Postal	Name	Signature	Date	Time

Laboratory Use Only								
Received By	Elvis D	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	11/10/19	Time	11:37 AM	Temperature 3.4°C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report № 682206

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[redacted]

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Special Directions	Samples send without COC				
Purchase Order	10035157 - task 1				
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Sampler(s)	Tom Keatley / Michael Ashelford
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☐ Same day* ☐ 1 day*
☐ 2 days* ☐ 3 days*
☑ 5 days (Standard)
☐ Other (

Analyses — Where matrix are requested, please specify "Total" or "Filtered". SOITE code must be used to attract SOITE pricing

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	Containers (Change container type & size if necessary): 500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP110_2	8/10/19	Soil					X									
2	TP110 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
3	TP111_0.2	8/10/19	Soil	X	X												
4	TP111_0.5	8/10/19	Soil	X													
5	TP111_1	8/10/19	Soil					X									
6	TP111 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
7	TP112_0.2	8/10/19	Soil	X	X												
8	TP112_0.5	8/10/19	Soil	X													
9	TP112_1	8/10/19	Soil					X									
10	TP112 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
11	TP113_0.2	8/10/19	Soil	X	X												
12	TP113_0.5	8/10/19	Soil					X									
13	TP113_1	8/10/19	Soil	X													
14	TP113_2	8/10/19	Soil					X									
15	TP113 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
16	TP114_0.2	8/10/19	Soil	X	X												
17	TP114_0.5	8/10/19	Soil					X									
18	TP114_1	8/10/19	Soil					X									
19	TP114_2	8/10/19	Soil	X													
20	TP114 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
			Total Counts														

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal — Name — Signature — Date — Time

Laboratory Use Only

Received By	Elvis D	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date 14/10/19	Time 11:34 AM	Temperature 3.4°C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	Date	Time	Report № 682200

Eurofins Environment Testing Australia Pty Ltd

[redacted]

CHAIN OF CUSTODY RECORD

Eurofins | Environment Testing Australia Pty Ltd

☑ Sydney Laboratory — Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066
☐ Brisbane Laboratory — Unit 1 21 Smallwood Place Murarrie QLD 4172
☐ Perth Laboratory — Unit 2 91 Leach Highway Kewdale WA 6105 — EnviroSampleWA@eurofins.com
☐ Melbourne Laboratory — 6 Monterey Road Dandenong South VIC 3175

Company	Arcadis Australia Pacific	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street, Sydney, NSW	Project №		EDD Format (ESdat, EQuIS etc)	Esdat + Equis
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions	Samples send without COC				
Purchase Order	10035157 - task 1				
Quote ID №	191002ARCN				

Sampler(s)	Tom Keatley / Michael Ashelford
Handed over by	Tom Keatley (by Courier)
Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Analyses — Where metals are requested please specify "Total" or "Filtered". SUITE code must be used to ensure SUITE pricing

Containers — Change container type & size if necessary.

Required Turnaround Time (TAT) — Default will be 5 days if not ticked. ♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other(

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Rinsate - 8 Heavy Metals	Trip Blank/Trip Spike - TRH (C6-C10 & BTEX)	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP114 - Asb_0.5	8/10/19	Soil_WA				X												Field sieved sample
2	TP115_0.2	8/10/19	Soil	X	X														
3	TP115_0.5	8/10/19	Soil							X									
4	TP115_1	8/10/19	Soil	X															
5	TP115 - Asb_0.1	8/10/19	Soil_WA				X												Field sieved sample
6	Trip Blank	0/01/00	Soil						X										
7	Trip Spike	0/01/00	Soil						X										
8	Field Water	8/10/19	Water					X											
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
			Total Counts																

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal — Name — Signature — Date — Time

Laboratory Use Only									
Received By	Elvis D	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	11/10/19	Time	11:37 Am	Temperature 3.4°C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report № 682206

Eurofins Environment Testing Australia Pty Ltd

#AU04_Enviro_Sample_NSW

To: Palma, Jack
Subject: RE: Eurofins Sample Receipt Advice - Report 682206 : Site 10035157

From: Palma, Jack [mailto:Jack.Palma@arcadis.com]
Sent: Monday, 14 October 2019 3:18 PM
To: #AU04_Enviro_Sample_NSW
Cc: Keatley, Tom
Subject: RE: Eurofins Sample Receipt Advice - Report 682206 : Site 10035157

Hi Rupan,
Could you please submit TP110_0.2 for analysis of B7 and B15.
The rest is fine – I note that MW04_0.1 was not scheduled for analysis so this isn't an issue.
Thank you.

Kind Regards

Jack Palma | Environmental Scientist | jack.palma@arcadis.com
Arcadis | Level 16, 580 George Street, Sydney | NSW, 2000 | Australia
T. + 61 2 8907 4172 | M. +61 408 988 954
www.arcadis.com/au

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Be green, leave it on the screen.

From: EnviroSampleNSW@eurofins.com <EnviroSampleNSW@eurofins.com>
Sent: Monday, 14 October 2019 3:13 PM
To: Palma, Jack <Jack.Palma@arcadis.com>
Cc: Keatley, Tom <Tom.Keatley@arcadis.com>
Subject: Eurofins Sample Receipt Advice - Report 682206 : Site 10035157

Dear Valued Client,

QA002_TK, QA2 sent to ALS for analysis.
ASBESTOS analysis to be done from Jar for samples : MW01_0.2, MW02_0.2, MW03_0.2, MW04_0.2, MW05_1, MW05_0.2, MW06_0.2 .
MISSING JAR - MW04_0.1, hence cancelled.
EXTRA SOIL JAR - TP110_0.2, placed on HOLD.

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins Analytical Services Manager as soon as possible to make certain that they get changed.

Regards

Rupan Virk
Sample Receipt

Eurofins | Environment Testing
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone: +61 299 008 400
Email: EnviroSampleNSW@eurofins.com
Website:environment.eurofins.com.au
EnviroNote 1068 - Eurofins Perth Laboratory
EnviroNote 1069 - Eurofins Overnight TAT
EnviroNote 1079 - PFAS Fingerprinting
EnviroNote 1080 - Total Organofluorine Analysis & PFAS Investigations

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NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Arcadis Australia**
Contact name:	Jack Palma
Project name:	10035157
Project ID:	10035157
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Oct 14, 2019 11:37 AM
Eurofins reference:	**682206**

Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☑ All samples have been received as described on the above COC.
- ☑ COC has been completed correctly.
- ☑ Attempt to chill was evident.
- ☑ Appropriately preserved sample containers have been used.
- ☑ All samples were received in good condition.
- ☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☑ Appropriate sample containers have been used.
- ☑ Sample containers for volatile analysis received with zero headspace.
- ☑ Split sample sent to requested external lab.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

QA002_TK, QA2 sent to ALS for analysis. ASBESTOS ANALYSIS DONE FROM JAR: MW01_0.2, MW02_0.2, MW03_0.2, MW04_0.2, MW05_1, MW05_0.2, MW06_0.2 . MISSING JAR - MW04_0.1.

Contact notes

If you have any questions with respect to these samples please contact:

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to Jack Palma - jack.palma@arcadis.com.

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Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	MW01_0.2	Oct 08, 2019		Soil	S19-Oc18552	X					X	X	X	
2	MW01_2	Oct 08, 2019		Soil	S19-Oc18553							X	X	
3	MW02_0.2	Oct 08, 2019		Soil	S19-Oc18554	X					X	X	X	
4	MW02_1	Oct 08, 2019		Soil	S19-Oc18555							X	X	
5	MW03_0.2	Oct 09, 2019		Soil	S19-Oc18556	X					X	X	X	
6	MW03_1.2	Oct 09, 2019		Soil	S19-Oc18557							X	X	
7	MW04_0.2	Oct 09, 2019		Soil	S19-Oc18558	X					X	X	X	
8	MW04_2	Oct 09, 2019		Soil	S19-Oc18559							X	X	
9	MW05_1	Oct 09, 2019		Soil	S19-Oc18560	X					X	X	X	

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Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	MW06_0.2	Oct 09, 2019		Soil	S19-Oc18561	X					X	X	X	
11	MW06_0.5	Oct 09, 2019		Soil	S19-Oc18562							X	X	
12	QA001_TK	Oct 08, 2019		Soil	S19-Oc18563						X	X	X	
13	QA1	Oct 08, 2019		Soil	S19-Oc18564						X	X	X	
14	TP101_0.2	Oct 08, 2019		Soil	S19-Oc18565						X	X	X	
15	TP101_0.5	Oct 08, 2019		Soil	S19-Oc18566							X	X	
16	TP101 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18567		X							
17	TP102_0.2	Oct 08, 2019		Soil	S19-Oc18568						X	X	X	
18	TP102_0.5	Oct 08, 2019		Soil	S19-Oc18569							X	X	
19	TP102 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18570		X							
20	TP103_0.2	Oct 08, 2019		Soil	S19-Oc18571						X	X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
21	TP103_1	Oct 08, 2019		Soil	S19-Oc18572							X	X	
22	TP103 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18573		X							
23	TP104_0.2	Oct 08, 2019		Soil	S19-Oc18574						X	X	X	
24	TP104_1	Oct 08, 2019		Soil	S19-Oc18575							X	X	
25	TP104 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18576		X							
26	TP105_0.2	Oct 08, 2019		Soil	S19-Oc18577						X	X	X	
27	TP105_1	Oct 08, 2019		Soil	S19-Oc18578							X	X	
28	TP105 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18579		X							
29	TP106_0.2	Oct 08, 2019		Soil	S19-Oc18580						X	X	X	
30	TP106_0.5	Oct 08, 2019		Soil	S19-Oc18581							X	X	

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Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
31	TP106 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18582		X							
32	TP107_0.2	Oct 08, 2019		Soil	S19-Oc18583						X	X	X	
33	TP107_0.5	Oct 08, 2019		Soil	S19-Oc18584							X	X	
34	TP107 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18585		X							
35	TP108_0.2	Oct 08, 2019		Soil	S19-Oc18586						X	X	X	
36	TP108_0.5	Oct 08, 2019		Soil	S19-Oc18587							X	X	
37	TP108 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18588		X							
38	TP109_0.2	Oct 08, 2019		Soil	S19-Oc18589						X	X	X	
39	TP109_0.5	Oct 08, 2019		Soil	S19-Oc18590							X	X	
40	TP109 -	Oct 08, 2019		Soil	S19-Oc18591		X							

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Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
	ASB_0.1													
41	TP110_1	Oct 08, 2019		Soil	S19-Oc18592							X	X	
42	TP110 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18593		X							
43	TP111_0.2	Oct 08, 2019		Soil	S19-Oc18594						X	X	X	
44	TP111_0.5	Oct 08, 2019		Soil	S19-Oc18595							X	X	
45	TP111 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18596		X							
46	TP112_0.2	Oct 08, 2019		Soil	S19-Oc18597						X	X	X	
47	TP112_0.5	Oct 08, 2019		Soil	S19-Oc18598							X	X	
48	TP112 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18599		X							
49	TP113_0.2	Oct 08, 2019		Soil	S19-Oc18600						X	X	X	

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NATA # 1261
Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
50	TP113_1	Oct 08, 2019		Soil	S19-Oc18601							X	X	
51	TP113 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18602		X							
52	TP114_0.2	Oct 08, 2019		Soil	S19-Oc18603						X	X	X	
53	TP114_2	Oct 08, 2019		Soil	S19-Oc18604							X	X	
54	TP114 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18605		X							
55	TP114 - ASB_0.5	Oct 08, 2019		Soil	S19-Oc18606		X							
56	TP115_0.2	Oct 08, 2019		Soil	S19-Oc18607						X	X	X	
57	TP115_1	Oct 08, 2019		Soil	S19-Oc18608							X	X	
58	TRIP BLANK	Oct 08, 2019		Soil	S19-Oc18609									X
59	TRIP SPIKE	Oct 08, 2019		Soil	S19-Oc18610									X

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Address: Lvl 16/580 George Street
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NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
60	FIELD WATER	Oct 08, 2019		Water	S19-Oc18612					X				
61	MW05_0.2	Oct 08, 2019		Soil	S19-Oc18614	X					X	X	X	
62	TP115 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18622		X							
63	MW01_0.5	Oct 08, 2019		Soil	S19-Oc18629				X					
64	MW01_1	Oct 08, 2019		Soil	S19-Oc18630				X					
65	MW01_3	Oct 08, 2019		Soil	S19-Oc18631				X					
66	MW01_4	Oct 08, 2019		Soil	S19-Oc18632				X					
67	MW01_5	Oct 08, 2019		Soil	S19-Oc18633				X					
68	MW01_6	Oct 08, 2019		Soil	S19-Oc18634				X					
69	MW01_7	Oct 08, 2019		Soil	S19-Oc18635				X					
70	MW01_8	Oct 08, 2019		Soil	S19-Oc18636				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
71	MW02_0.5	Oct 08, 2019		Soil	S19-Oc18637				X					
72	MW02_2	Oct 08, 2019		Soil	S19-Oc18638				X					
73	MW02_3	Oct 08, 2019		Soil	S19-Oc18639				X					
74	MW02_4	Oct 08, 2019		Soil	S19-Oc18640				X					
75	MW02_5	Oct 08, 2019		Soil	S19-Oc18641				X					
76	MW02_6	Oct 08, 2019		Soil	S19-Oc18642				X					
77	MW02_7	Oct 08, 2019		Soil	S19-Oc18643				X					
78	MW02_10	Oct 09, 2019		Soil	S19-Oc18644				X					
79	MW03_0.5	Oct 09, 2019		Soil	S19-Oc18645				X					
80	MW03_2	Oct 09, 2019		Soil	S19-Oc18646				X					
81	MW03_2.7	Oct 09, 2019		Soil	S19-Oc18647				X					
82	MW03_4	Oct 09, 2019		Soil	S19-Oc18648				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
83	MW03_5	Oct 09, 2019		Soil	S19-Oc18649				X					
84	MW03_6.5	Oct 09, 2019		Soil	S19-Oc18650				X					
85	MW04_0.1	Oct 09, 2019		Soil	S19-Oc18651			X						
86	MW04_0.5	Oct 09, 2019		Soil	S19-Oc18652				X					
87	MW04_1	Oct 09, 2019		Soil	S19-Oc18653				X					
88	MW04_3	Oct 09, 2019		Soil	S19-Oc18654				X					
89	MW04_4	Oct 09, 2019		Soil	S19-Oc18655				X					
90	MW04_5	Oct 09, 2019		Soil	S19-Oc18656				X					
91	MW04_6	Oct 09, 2019		Soil	S19-Oc18657				X					
92	MW04_7	Oct 09, 2019		Soil	S19-Oc18658				X					
93	MW04_8	Oct 09, 2019		Soil	S19-Oc18659				X					
94	MW05_0.5	Oct 09, 2019		Soil	S19-Oc18660				X					

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Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
95	MW05_2	Oct 09, 2019		Soil	S19-Oc18661				X					
96	MW05_3	Oct 09, 2019		Soil	S19-Oc18662				X					
97	MW05_4	Oct 09, 2019		Soil	S19-Oc18663				X					
98	MW05_5	Oct 09, 2019		Soil	S19-Oc18664				X					
99	MW05_6	Oct 09, 2019		Soil	S19-Oc18665				X					
100	MW05_7	Oct 09, 2019		Soil	S19-Oc18666				X					
101	MW05_8	Oct 09, 2019		Soil	S19-Oc18667				X					
102	MW05_10	Oct 09, 2019		Soil	S19-Oc18668				X					
103	MW06_1	Oct 09, 2019		Soil	S19-Oc18669				X					
104	MW06_2	Oct 08, 2019		Soil	S19-Oc18670				X					
105	MW06_4	Oct 08, 2019		Soil	S19-Oc18671				X					
106	QA003_TK	Oct 09, 2019		Soil	S19-Oc18672				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
107	QA004_TK	Oct 08, 2019		Soil	S19-Oc18673				X					
108	TP101_1	Oct 08, 2019		Soil	S19-Oc18674				X					
109	TP102_1	Oct 08, 2019		Soil	S19-Oc18675				X					
110	TP103_0.5	Oct 08, 2019		Soil	S19-Oc18676				X					
111	TP104_0.5	Oct 08, 2019		Soil	S19-Oc18677				X					
112	TP104_1.5	Oct 08, 2019		Soil	S19-Oc18678				X					
113	TP105_0.5	Oct 08, 2019		Soil	S19-Oc18679				X					
114	TP106_1	Oct 08, 2019		Soil	S19-Oc18680				X					
115	TP107_1	Oct 08, 2019		Soil	S19-Oc18681				X					
116	TP108_1	Oct 08, 2019		Soil	S19-Oc18682				X					
117	TP109_1	Oct 08, 2019		Soil	S19-Oc18683				X					
118	TP110_0.5	Oct 08, 2019		Soil	S19-Oc18684				X					

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Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
119	TP110_2	Oct 08, 2019		Soil	S19-Oc18685				X					
120	TP111_1	Oct 08, 2019		Soil	S19-Oc18686				X					
121	TP112_1	Oct 08, 2019		Soil	S19-Oc18687				X					
122	TP113_0.5	Oct 08, 2019		Soil	S19-Oc18688				X					
123	TP113_2	Oct 08, 2019		Soil	S19-Oc18689				X					
124	TP114_0.5	Oct 08, 2019		Soil	S19-Oc18690				X					
125	TP114_1	Oct 08, 2019		Soil	S19-Oc18691				X					
126	TP115_0.5	Oct 08, 2019		Soil	S19-Oc18692				X					
127	TP110_0.2	Oct 08, 2019		Soil	S19-Oc18992						X	X	X	
Test Counts						7	16	1	63	1	24	44	44	2

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Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025–Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

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Attention:	Jack Palma
Report	682206-AID
Project Name	10035157
Project ID	10035157
Received Date	Oct 14, 2019
Date Reported	Oct 18, 2019

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Project Name 10035157
Project ID 10035157
Date Sampled Oct 08, 2019 to Oct 09, 2019
Report 682206-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
MW01_0.2	19-Oc18552	Oct 08, 2019	Approximate Sample 72g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
MW02_0.2	19-Oc18554	Oct 08, 2019	Approximate Sample 67g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
MW03_0.2	19-Oc18556	Oct 09, 2019	Approximate Sample 59g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
MW04_0.2	19-Oc18558	Oct 09, 2019	Approximate Sample 66g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
MW05_1	19-Oc18560	Oct 09, 2019	Approximate Sample 59g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
MW06_0.2	19-Oc18561	Oct 09, 2019	Approximate Sample 58g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP101 - ASB_0.1	19-Oc18567	Oct 08, 2019	Approximate Sample 663g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP102 - ASB_0.1	19-Oc18570	Oct 08, 2019	Approximate Sample 660g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP103 - ASB_0.1	19-Oc18573	Oct 08, 2019	Approximate Sample 579g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP104 - ASB_0.1	19-Oc18576	Oct 08, 2019	Approximate Sample 769g Sample consisted of: Brown coarse-grained soil, rocks and bituminous material	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP105 - ASB_0.1	19-Oc18579	Oct 08, 2019	Approximate Sample 701g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP106 - ASB_0.1	19-Oc18582	Oct 08, 2019	Approximate Sample 593g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP107 - ASB_0.1	19-Oc18585	Oct 08, 2019	Approximate Sample 613g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP108 - ASB_0.1	19-Oc18588	Oct 08, 2019	Approximate Sample 690g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP109 - ASB_0.1	19-Oc18591	Oct 08, 2019	Approximate Sample 557g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP110 - ASB_0.1	19-Oc18593	Oct 08, 2019	Approximate Sample 547g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP111 - ASB_0.1	19-Oc18596	Oct 08, 2019	Approximate Sample 571g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP112 - ASB_0.1	19-Oc18599	Oct 08, 2019	Approximate Sample 613g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP113 - ASB_0.1	19-Oc18602	Oct 08, 2019	Approximate Sample 681g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP114 - ASB_0.1	19-Oc18605	Oct 08, 2019	Approximate Sample 619g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP114 - ASB_0.5	19-Oc18606	Oct 08, 2019	Approximate Sample 729g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
MW05_0.2	19-Oc18614	Oct 08, 2019	Approximate Sample 54g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
TP115 - ASB_0.1	19-Oc18622	Oct 08, 2019	Approximate Sample 774g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Oct 14, 2019	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Oct 14, 2019	Indefinite

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Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	MW01_0.2	Oct 08, 2019		Soil	S19-Oc18552	X					X	X	X	
2	MW01_2	Oct 08, 2019		Soil	S19-Oc18553							X	X	
3	MW02_0.2	Oct 08, 2019		Soil	S19-Oc18554	X					X	X	X	
4	MW02_1	Oct 08, 2019		Soil	S19-Oc18555							X	X	
5	MW03_0.2	Oct 09, 2019		Soil	S19-Oc18556	X					X	X	X	
6	MW03_1.2	Oct 09, 2019		Soil	S19-Oc18557							X	X	
7	MW04_0.2	Oct 09, 2019		Soil	S19-Oc18558	X					X	X	X	
8	MW04_2	Oct 09, 2019		Soil	S19-Oc18559							X	X	
9	MW05_1	Oct 09, 2019		Soil	S19-Oc18560	X					X	X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	MW06_0.2	Oct 09, 2019		Soil	S19-Oc18561	X					X	X	X	
11	MW06_0.5	Oct 09, 2019		Soil	S19-Oc18562							X	X	
12	QA001_TK	Oct 08, 2019		Soil	S19-Oc18563						X	X	X	
13	QA1	Oct 08, 2019		Soil	S19-Oc18564						X	X	X	
14	TP101_0.2	Oct 08, 2019		Soil	S19-Oc18565						X	X	X	
15	TP101_0.5	Oct 08, 2019		Soil	S19-Oc18566							X	X	
16	TP101 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18567		X							
17	TP102_0.2	Oct 08, 2019		Soil	S19-Oc18568						X	X	X	
18	TP102_0.5	Oct 08, 2019		Soil	S19-Oc18569							X	X	
19	TP102 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18570		X							
20	TP103_0.2	Oct 08, 2019		Soil	S19-Oc18571						X	X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
21	TP103_1	Oct 08, 2019		Soil	S19-Oc18572							X	X	
22	TP103 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18573		X							
23	TP104_0.2	Oct 08, 2019		Soil	S19-Oc18574						X	X	X	
24	TP104_1	Oct 08, 2019		Soil	S19-Oc18575							X	X	
25	TP104 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18576		X							
26	TP105_0.2	Oct 08, 2019		Soil	S19-Oc18577						X	X	X	
27	TP105_1	Oct 08, 2019		Soil	S19-Oc18578							X	X	
28	TP105 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18579		X							
29	TP106_0.2	Oct 08, 2019		Soil	S19-Oc18580						X	X	X	
30	TP106_0.5	Oct 08, 2019		Soil	S19-Oc18581							X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
31	TP106 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18582		X							
32	TP107_0.2	Oct 08, 2019		Soil	S19-Oc18583						X	X	X	
33	TP107_0.5	Oct 08, 2019		Soil	S19-Oc18584							X	X	
34	TP107 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18585		X							
35	TP108_0.2	Oct 08, 2019		Soil	S19-Oc18586						X	X	X	
36	TP108_0.5	Oct 08, 2019		Soil	S19-Oc18587							X	X	
37	TP108 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18588		X							
38	TP109_0.2	Oct 08, 2019		Soil	S19-Oc18589						X	X	X	
39	TP109_0.5	Oct 08, 2019		Soil	S19-Oc18590							X	X	
40	TP109 -	Oct 08, 2019		Soil	S19-Oc18591		X							

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
	ASB_0.1													
41	TP110_1	Oct 08, 2019		Soil	S19-Oc18592							X	X	
42	TP110 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18593		X							
43	TP111_0.2	Oct 08, 2019		Soil	S19-Oc18594						X	X	X	
44	TP111_0.5	Oct 08, 2019		Soil	S19-Oc18595							X	X	
45	TP111 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18596		X							
46	TP112_0.2	Oct 08, 2019		Soil	S19-Oc18597						X	X	X	
47	TP112_0.5	Oct 08, 2019		Soil	S19-Oc18598							X	X	
48	TP112 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18599		X							
49	TP113_0.2	Oct 08, 2019		Soil	S19-Oc18600						X	X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
50	TP113_1	Oct 08, 2019		Soil	S19-Oc18601							X	X	
51	TP113 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18602		X							
52	TP114_0.2	Oct 08, 2019		Soil	S19-Oc18603						X	X	X	
53	TP114_2	Oct 08, 2019		Soil	S19-Oc18604							X	X	
54	TP114 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18605		X							
55	TP114 - ASB_0.5	Oct 08, 2019		Soil	S19-Oc18606		X							
56	TP115_0.2	Oct 08, 2019		Soil	S19-Oc18607						X	X	X	
57	TP115_1	Oct 08, 2019		Soil	S19-Oc18608							X	X	
58	TRIP BLANK	Oct 08, 2019		Soil	S19-Oc18609									X
59	TRIP SPIKE	Oct 08, 2019		Soil	S19-Oc18610									X

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
60	FIELD WATER	Oct 08, 2019		Water	S19-Oc18612					X				
61	MW05_0.2	Oct 08, 2019		Soil	S19-Oc18614	X					X	X	X	
62	TP115 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18622		X							
63	MW01_0.5	Oct 08, 2019		Soil	S19-Oc18629				X					
64	MW01_1	Oct 08, 2019		Soil	S19-Oc18630				X					
65	MW01_3	Oct 08, 2019		Soil	S19-Oc18631				X					
66	MW01_4	Oct 08, 2019		Soil	S19-Oc18632				X					
67	MW01_5	Oct 08, 2019		Soil	S19-Oc18633				X					
68	MW01_6	Oct 08, 2019		Soil	S19-Oc18634				X					
69	MW01_7	Oct 08, 2019		Soil	S19-Oc18635				X					
70	MW01_8	Oct 08, 2019		Soil	S19-Oc18636				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
71	MW02_0.5	Oct 08, 2019		Soil	S19-Oc18637				X					
72	MW02_2	Oct 08, 2019		Soil	S19-Oc18638				X					
73	MW02_3	Oct 08, 2019		Soil	S19-Oc18639				X					
74	MW02_4	Oct 08, 2019		Soil	S19-Oc18640				X					
75	MW02_5	Oct 08, 2019		Soil	S19-Oc18641				X					
76	MW02_6	Oct 08, 2019		Soil	S19-Oc18642				X					
77	MW02_7	Oct 08, 2019		Soil	S19-Oc18643				X					
78	MW02_10	Oct 09, 2019		Soil	S19-Oc18644				X					
79	MW03_0.5	Oct 09, 2019		Soil	S19-Oc18645				X					
80	MW03_2	Oct 09, 2019		Soil	S19-Oc18646				X					
81	MW03_2.7	Oct 09, 2019		Soil	S19-Oc18647				X					
82	MW03_4	Oct 09, 2019		Soil	S19-Oc18648				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
83	MW03_5	Oct 09, 2019		Soil	S19-Oc18649				X					
84	MW03_6.5	Oct 09, 2019		Soil	S19-Oc18650				X					
85	MW04_0.1	Oct 09, 2019		Soil	S19-Oc18651			X						
86	MW04_0.5	Oct 09, 2019		Soil	S19-Oc18652				X					
87	MW04_1	Oct 09, 2019		Soil	S19-Oc18653				X					
88	MW04_3	Oct 09, 2019		Soil	S19-Oc18654				X					
89	MW04_4	Oct 09, 2019		Soil	S19-Oc18655				X					
90	MW04_5	Oct 09, 2019		Soil	S19-Oc18656				X					
91	MW04_6	Oct 09, 2019		Soil	S19-Oc18657				X					
92	MW04_7	Oct 09, 2019		Soil	S19-Oc18658				X					
93	MW04_8	Oct 09, 2019		Soil	S19-Oc18659				X					
94	MW05_0.5	Oct 09, 2019		Soil	S19-Oc18660				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
95	MW05_2	Oct 09, 2019		Soil	S19-Oc18661				X					
96	MW05_3	Oct 09, 2019		Soil	S19-Oc18662				X					
97	MW05_4	Oct 09, 2019		Soil	S19-Oc18663				X					
98	MW05_5	Oct 09, 2019		Soil	S19-Oc18664				X					
99	MW05_6	Oct 09, 2019		Soil	S19-Oc18665				X					
100	MW05_7	Oct 09, 2019		Soil	S19-Oc18666				X					
101	MW05_8	Oct 09, 2019		Soil	S19-Oc18667				X					
102	MW05_10	Oct 09, 2019		Soil	S19-Oc18668				X					
103	MW06_1	Oct 09, 2019		Soil	S19-Oc18669				X					
104	MW06_2	Oct 08, 2019		Soil	S19-Oc18670				X					
105	MW06_4	Oct 08, 2019		Soil	S19-Oc18671				X					
106	QA003_TK	Oct 09, 2019		Soil	S19-Oc18672				X					

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Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
107	QA004_TK	Oct 08, 2019		Soil	S19-Oc18673				X					
108	TP101_1	Oct 08, 2019		Soil	S19-Oc18674				X					
109	TP102_1	Oct 08, 2019		Soil	S19-Oc18675				X					
110	TP103_0.5	Oct 08, 2019		Soil	S19-Oc18676				X					
111	TP104_0.5	Oct 08, 2019		Soil	S19-Oc18677				X					
112	TP104_1.5	Oct 08, 2019		Soil	S19-Oc18678				X					
113	TP105_0.5	Oct 08, 2019		Soil	S19-Oc18679				X					
114	TP106_1	Oct 08, 2019		Soil	S19-Oc18680				X					
115	TP107_1	Oct 08, 2019		Soil	S19-Oc18681				X					
116	TP108_1	Oct 08, 2019		Soil	S19-Oc18682				X					
117	TP109_1	Oct 08, 2019		Soil	S19-Oc18683				X					
118	TP110_0.5	Oct 08, 2019		Soil	S19-Oc18684				X					

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Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
119	TP110_2	Oct 08, 2019		Soil	S19-Oc18685				X					
120	TP111_1	Oct 08, 2019		Soil	S19-Oc18686				X					
121	TP112_1	Oct 08, 2019		Soil	S19-Oc18687				X					
122	TP113_0.5	Oct 08, 2019		Soil	S19-Oc18688				X					
123	TP113_2	Oct 08, 2019		Soil	S19-Oc18689				X					
124	TP114_0.5	Oct 08, 2019		Soil	S19-Oc18690				X					
125	TP114_1	Oct 08, 2019		Soil	S19-Oc18691				X					
126	TP115_0.5	Oct 08, 2019		Soil	S19-Oc18692				X					
127	TP110_0.2	Oct 08, 2019		Soil	S19-Oc18992						X	X	X	
Test Counts						7	16	1	63	1	24	44	44	2

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

S19-Oc18552, S19-Oc18554, S19-Oc18556, S19-Oc18558, S19-Oc18560, S19-Oc18561, S19-Oc18614: The samples received were not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-samples to be analysed accurately represented the samples received.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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eurofins | Environment Testing

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Arcadis Australia
Lvl 16/580 George Street
Sydney
NSW 2000

Attention: **Jack Palma**

Report **682206-S**
Project name 10035157
Project ID 10035157
Received Date Oct 14, 2019

Client Sample ID			**MW01_0.2**	**MW01_2**	**MW02_0.2**	**MW02_1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S19-Oc18552**	**S19-Oc18553**	**S19-Oc18554**	**S19-Oc18555**
Date Sampled			**Oct 08, 2019**	**Oct 08, 2019**	**Oct 08, 2019**	**Oct 08, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	103	76	110	111
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			MW01_0.2	MW01_2	MW02_0.2	MW02_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18552	S19-Oc18553	S19-Oc18554	S19-Oc18555
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	98	94	69	97
p-Terphenyl-d14 (surr.)	1	%	116	106	117	105
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	-
Toxaphene	1	mg/kg	< 1	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	90	-	89	-
Tetrachloro-m-xylene (surr.)	1	%	96	-	98	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Coumaphos	2	mg/kg	< 2	-	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	-

Client Sample ID			MW01_0.2	MW01_2	MW02_0.2	MW02_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18552	S19-Oc18553	S19-Oc18554	S19-Oc18555
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	-
EPN	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Monocrotophos	2	mg/kg	< 2	-	< 2	-
Naled	0.2	mg/kg	< 0.2	-	< 0.2	-
Omethoate	2	mg/kg	< 2	-	< 2	-
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	100	-	93	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	90	-	89	-
Tetrachloro-m-xylene (surr.)	1	%	96	-	98	-
Heavy Metals						
Arsenic	2	mg/kg	15	6.5	8.1	8.9
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	22	19	26	26
Copper	5	mg/kg	31	19	23	24
Lead	5	mg/kg	27	18	18	22
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	22	11	12	21
Zinc	5	mg/kg	99	25	36	42
% Moisture	1	%	20	16	14	10

Client Sample ID			MW03_0.2	MW03_1.2	MW04_0.2	MW04_2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18556	S19-Oc18557	S19-Oc18558	S19-Oc18559
Date Sampled			Oct 09, 2019	Oct 09, 2019	Oct 09, 2019	Oct 09, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	77	116	108	110
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	72	95	69	79
p-Terphenyl-d14 (surr.)	1	%	102	101	95	83

Client Sample ID			MW03_0.2	MW03_1.2	MW04_0.2	MW04_2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18556	S19-Oc18557	S19-Oc18558	S19-Oc18559
Date Sampled			Oct 09, 2019	Oct 09, 2019	Oct 09, 2019	Oct 09, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	-
Toxaphene	1	mg/kg	< 1	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	77	-	75	-
Tetrachloro-m-xylene (surr.)	1	%	93	-	94	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Coumaphos	2	mg/kg	< 2	-	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	-
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	-
EPN	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	-	< 0.2	-

Client Sample ID			MW03_0.2	MW03_1.2	MW04_0.2	MW04_2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18556	S19-Oc18557	S19-Oc18558	S19-Oc18559
Date Sampled			Oct 09, 2019	Oct 09, 2019	Oct 09, 2019	Oct 09, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Monocrotophos	2	mg/kg	< 2	-	< 2	-
Naled	0.2	mg/kg	< 0.2	-	< 0.2	-
Omethoate	2	mg/kg	< 2	-	< 2	-
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	86	-	93	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	77	-	75	-
Tetrachloro-m-xylene (surr.)	1	%	93	-	94	-
Heavy Metals						
Arsenic	2	mg/kg	7.7	5.2	11	8.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	13	27	13
Copper	5	mg/kg	27	30	24	20
Lead	5	mg/kg	15	41	18	6.8
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	9.6	9.7	11	< 5
Zinc	5	mg/kg	43	42	34	28
% Moisture	1	%	16	13	20	10

Client Sample ID			MW05_1	MW06_0.2	MW06_0.5	QA001_TK
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18560	S19-Oc18561	S19-Oc18562	S19-Oc18563
Date Sampled			Oct 09, 2019	Oct 09, 2019	Oct 09, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			MW05_1	MW06_0.2	MW06_0.5	QA001_TK
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18560	S19-Oc18561	S19-Oc18562	S19-Oc18563
Date Sampled			Oct 09, 2019	Oct 09, 2019	Oct 09, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	86	104	112	129
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	51	77	91	64
p-Terphenyl-d14 (surr.)	1	%	129	142	100	97
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05

Client Sample ID			MW05_1	MW06_0.2	MW06_0.5	QA001_TK
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18560	S19-Oc18561	S19-Oc18562	S19-Oc18563
Date Sampled			Oct 09, 2019	Oct 09, 2019	Oct 09, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	61	68	-	82
Tetrachloro-m-xylene (surr.)	1	%	79	91	-	107
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	-	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	-	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Omethoate	2	mg/kg	< 2	< 2	-	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2

Client Sample ID			MW05_1	MW06_0.2	MW06_0.5	QA001_TK
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18560	S19-Oc18561	S19-Oc18562	S19-Oc18563
Date Sampled			Oct 09, 2019	Oct 09, 2019	Oct 09, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ronnel	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	99	102	-	87
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibutylchlorendate (surr.)	1	%	61	68	-	82
Tetrachloro-m-xylene (surr.)	1	%	79	91	-	107
Heavy Metals						
Arsenic	2	mg/kg	7.8	4.0	3.6	10
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	16	13	24
Copper	5	mg/kg	17	28	26	17
Lead	5	mg/kg	14	12	10	24
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	5.8	13	11	11
Zinc	5	mg/kg	21	52	50	33
% Moisture	1	%	21	19	16	16

Client Sample ID			QA1	TP101_0.2	TP101_0.5	TP102_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18564	S19-Oc18565	S19-Oc18566	S19-Oc18568
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	160	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	130	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	290	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	29	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	91	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	110	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	230	< 50	< 50	< 50

Client Sample ID			QA1	TP101_0.2	TP101_0.5	TP102_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18564	S19-Oc18565	S19-Oc18566	S19-Oc18568
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	92	77	122	102
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	89	75	89	78
p-Terphenyl-d14 (surr.)	1	%	100	120	107	114
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05

Client Sample ID			QA1	TP101_0.2	TP101_0.5	TP102_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18564	S19-Oc18565	S19-Oc18566	S19-Oc18568
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	70	86	-	81
Tetrachloro-m-xylene (surr.)	1	%	86	107	-	107
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	-	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	-	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Omethoate	2	mg/kg	< 2	< 2	-	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	93	107	-	103

Client Sample ID			QA1	TP101_0.2	TP101_0.5	TP102_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18564	S19-Oc18565	S19-Oc18566	S19-Oc18568
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibutylchlorendate (surr.)	1	%	70	86	-	81
Tetrachloro-m-xylene (surr.)	1	%	86	107	-	107
Heavy Metals						
Arsenic	2	mg/kg	5.3	9.5	18	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	18	17	24	21
Copper	5	mg/kg	35	16	39	31
Lead	5	mg/kg	14	20	20	27
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	20	12	12	10
Zinc	5	mg/kg	71	33	47	47
% Moisture	1	%	10.0	17	21	14

Client Sample ID			TP102_0.5	TP103_0.2	TP103_1	TP104_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18569	S19-Oc18571	S19-Oc18572	S19-Oc18574
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	220
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	180
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	400
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	120
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	160
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	280
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			TP102_0.5	TP103_0.2	TP103_1	TP104_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18569	S19-Oc18571	S19-Oc18572	S19-Oc18574
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	122	76	75	86
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	87	67	95	71
p-Terphenyl-d14 (surr.)	1	%	106	100	105	98
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	-	< 0.2	-	< 0.2
Toxaphene	1	mg/kg	-	< 1	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05

Client Sample ID			TP102_0.5	TP103_0.2	TP103_1	TP104_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18569	S19-Oc18571	S19-Oc18572	S19-Oc18574
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	132	-	93
Tetrachloro-m-xylene (surr.)	1	%	-	125	-	90
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Bolstar	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Coumaphos	2	mg/kg	-	< 2	-	< 2
Demeton-S	0.2	mg/kg	-	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	-	< 0.2
Diazinon	0.2	mg/kg	-	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	-	< 0.2
Dimethoate	0.2	mg/kg	-	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	-	< 0.2
EPN	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Malathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Monocrotophos	2	mg/kg	-	< 2	-	< 2
Naled	0.2	mg/kg	-	< 0.2	-	< 0.2
Omethoate	2	mg/kg	-	< 2	-	< 2
Phorate	0.2	mg/kg	-	< 0.2	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Pyrazophos	0.2	mg/kg	-	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	-	< 0.2
Terbufos	0.2	mg/kg	-	< 0.2	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	-	113	-	109
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	< 0.5	-	< 0.5
Total PCB*	0.5	mg/kg	-	< 0.5	-	< 0.5

Client Sample ID			TP102_0.5	TP103_0.2	TP103_1	TP104_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18569	S19-Oc18571	S19-Oc18572	S19-Oc18574
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	-	132	-	93
Tetrachloro-m-xylene (surr.)	1	%	-	125	-	90
Heavy Metals						
Arsenic	2	mg/kg	5.5	9.4	5.7	4.1
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	16	25	14	18
Copper	5	mg/kg	17	15	18	28
Lead	5	mg/kg	12	21	16	11
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	8.0	9.6	9.2	18
Zinc	5	mg/kg	21	27	24	54
% Moisture	1	%	16	15	16	10

Client Sample ID			TP104_1	TP105_0.2	TP105_1	TP106_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18575	S19-Oc18577	S19-Oc18578	S19-Oc18580
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	64	81	116	78
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			TP104_1	TP105_0.2	TP105_1	TP106_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18575	S19-Oc18577	S19-Oc18578	S19-Oc18580
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	56	75	72	88
p-Terphenyl-d14 (surr.)	1	%	59	103	105	98
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	-	< 0.2	-	< 0.2
Toxaphene	1	mg/kg	-	< 1	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	91	-	105
Tetrachloro-m-xylene (surr.)	1	%	-	89	-	89

Client Sample ID			TP104_1	TP105_0.2	TP105_1	TP106_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18575	S19-Oc18577	S19-Oc18578	S19-Oc18580
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Bolstar	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Coumaphos	2	mg/kg	-	< 2	-	< 2
Demeton-S	0.2	mg/kg	-	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	-	< 0.2
Diazinon	0.2	mg/kg	-	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	-	< 0.2
Dimethoate	0.2	mg/kg	-	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	-	< 0.2
EPN	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Malathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Monocrotophos	2	mg/kg	-	< 2	-	< 2
Naled	0.2	mg/kg	-	< 0.2	-	< 0.2
Omethoate	2	mg/kg	-	< 2	-	< 2
Phorate	0.2	mg/kg	-	< 0.2	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Pyrazophos	0.2	mg/kg	-	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	-	< 0.2
Terbufos	0.2	mg/kg	-	< 0.2	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	-	112	-	105
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	< 0.5	-	< 0.5
Total PCB*	0.5	mg/kg	-	< 0.5	-	< 0.5
Dibutylchlorendate (surr.)	1	%	-	91	-	105
Tetrachloro-m-xylene (surr.)	1	%	-	89	-	89

Client Sample ID			TP104_1	TP105_0.2	TP105_1	TP106_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18575	S19-Oc18577	S19-Oc18578	S19-Oc18580
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	4.2	11	7.4	14
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	9.9	18	21	27
Copper	5	mg/kg	36	15	27	22
Lead	5	mg/kg	15	28	12	34
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	8.7	15	15	14
Zinc	5	mg/kg	54	31	38	53
% Moisture	1	%	12	14	17	15

Client Sample ID			TP106_0.5	TP107_0.2	TP107_0.5	TP108_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18581	S19-Oc18583	S19-Oc18584	S19-Oc18586
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	144	114	98	129
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			TP106_0.5	TP107_0.2	TP107_0.5	TP108_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18581	S19-Oc18583	S19-Oc18584	S19-Oc18586
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	76	73	97	76
p-Terphenyl-d14 (surr.)	1	%	103	95	108	115
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	-	< 0.2	-	< 0.2
Toxaphene	1	mg/kg	-	< 1	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	94	-	82
Tetrachloro-m-xylene (surr.)	1	%	-	90	-	97
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Bolstar	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Coumaphos	2	mg/kg	-	< 2	-	< 2

Client Sample ID			TP106_0.5	TP107_0.2	TP107_0.5	TP108_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18581	S19-Oc18583	S19-Oc18584	S19-Oc18586
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Demeton-S	0.2	mg/kg	-	< 0.2	-	< 0.2
Demeton-O	0.2	mg/kg	-	< 0.2	-	< 0.2
Diazinon	0.2	mg/kg	-	< 0.2	-	< 0.2
Dichlorvos	0.2	mg/kg	-	< 0.2	-	< 0.2
Dimethoate	0.2	mg/kg	-	< 0.2	-	< 0.2
Disulfoton	0.2	mg/kg	-	< 0.2	-	< 0.2
EPN	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethion	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethoprop	0.2	mg/kg	-	< 0.2	-	< 0.2
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenitrothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fensulfothion	0.2	mg/kg	-	< 0.2	-	< 0.2
Fenthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Malathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Merphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Methyl parathion	0.2	mg/kg	-	< 0.2	-	< 0.2
Mevinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Monocrotophos	2	mg/kg	-	< 2	-	< 2
Naled	0.2	mg/kg	-	< 0.2	-	< 0.2
Omethoate	2	mg/kg	-	< 2	-	< 2
Phorate	0.2	mg/kg	-	< 0.2	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	-	< 0.2
Pyrazophos	0.2	mg/kg	-	< 0.2	-	< 0.2
Ronnel	0.2	mg/kg	-	< 0.2	-	< 0.2
Terbufos	0.2	mg/kg	-	< 0.2	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	-	< 0.2
Tokuthion	0.2	mg/kg	-	< 0.2	-	< 0.2
Trichloronate	0.2	mg/kg	-	< 0.2	-	< 0.2
Triphenylphosphate (surr.)	1	%	-	105	-	115
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	< 0.1
Aroclor-1232	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	< 0.5	-	< 0.5
Total PCB*	0.5	mg/kg	-	< 0.5	-	< 0.5
Dibutylchlorendate (surr.)	1	%	-	94	-	82
Tetrachloro-m-xylene (surr.)	1	%	-	90	-	97
Heavy Metals						
Arsenic	2	mg/kg	8.0	21	7.1	11
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	23	46	20	34
Copper	5	mg/kg	27	21	26	12
Lead	5	mg/kg	18	30	23	23
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	12	12	< 5	7.2
Zinc	5	mg/kg	55	44	22	18

Client Sample ID			TP106_0.5	TP107_0.2	TP107_0.5	TP108_0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18581	S19-Oc18583	S19-Oc18584	S19-Oc18586
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
% Moisture	1	%	20	16	19	15

Client Sample ID			TP108_0.5	TP109_0.2	TP109_0.5	TP110_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18587	S19-Oc18589	S19-Oc18590	S19-Oc18592
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	129	126	135	118
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			TP108_0.5	TP109_0.2	TP109_0.5	TP110_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18587	S19-Oc18589	S19-Oc18590	S19-Oc18592
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	89	88	77	98
p-Terphenyl-d14 (surr.)	1	%	102	100	105	108
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	-
a-BHC	0.05	mg/kg	-	< 0.05	-	-
Aldrin	0.05	mg/kg	-	< 0.05	-	-
b-BHC	0.05	mg/kg	-	< 0.05	-	-
d-BHC	0.05	mg/kg	-	< 0.05	-	-
Dieldrin	0.05	mg/kg	-	< 0.05	-	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	-
Endrin	0.05	mg/kg	-	< 0.05	-	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	-
Heptachlor	0.05	mg/kg	-	< 0.05	-	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	-
Methoxychlor	0.2	mg/kg	-	< 0.2	-	-
Toxaphene	1	mg/kg	-	< 1	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	-	-
Dibutylchlorendate (surr.)	1	%	-	70	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	88	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Bolstar	0.2	mg/kg	-	< 0.2	-	-
Chlorfenvinphos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos	0.2	mg/kg	-	< 0.2	-	-
Chlorpyrifos-methyl	0.2	mg/kg	-	< 0.2	-	-
Coumaphos	2	mg/kg	-	< 2	-	-
Demeton-S	0.2	mg/kg	-	< 0.2	-	-
Demeton-O	0.2	mg/kg	-	< 0.2	-	-
Diazinon	0.2	mg/kg	-	< 0.2	-	-
Dichlorvos	0.2	mg/kg	-	< 0.2	-	-
Dimethoate	0.2	mg/kg	-	< 0.2	-	-
Disulfoton	0.2	mg/kg	-	< 0.2	-	-
EPN	0.2	mg/kg	-	< 0.2	-	-
Ethion	0.2	mg/kg	-	< 0.2	-	-
Ethoprop	0.2	mg/kg	-	< 0.2	-	-

Client Sample ID			TP108_0.5	TP109_0.2	TP109_0.5	TP110_1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18587	S19-Oc18589	S19-Oc18590	S19-Oc18592
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ethyl parathion	0.2	mg/kg	-	< 0.2	-	-
Fenitrothion	0.2	mg/kg	-	< 0.2	-	-
Fensulfothion	0.2	mg/kg	-	< 0.2	-	-
Fenthion	0.2	mg/kg	-	< 0.2	-	-
Malathion	0.2	mg/kg	-	< 0.2	-	-
Merphos	0.2	mg/kg	-	< 0.2	-	-
Methyl parathion	0.2	mg/kg	-	< 0.2	-	-
Mevinphos	0.2	mg/kg	-	< 0.2	-	-
Monocrotophos	2	mg/kg	-	< 2	-	-
Naled	0.2	mg/kg	-	< 0.2	-	-
Omethoate	2	mg/kg	-	< 2	-	-
Phorate	0.2	mg/kg	-	< 0.2	-	-
Pirimiphos-methyl	0.2	mg/kg	-	< 0.2	-	-
Pyrazophos	0.2	mg/kg	-	< 0.2	-	-
Ronnel	0.2	mg/kg	-	< 0.2	-	-
Terbufos	0.2	mg/kg	-	< 0.2	-	-
Tetrachlorvinphos	0.2	mg/kg	-	< 0.2	-	-
Tokuthion	0.2	mg/kg	-	< 0.2	-	-
Trichloronate	0.2	mg/kg	-	< 0.2	-	-
Triphenylphosphate (surr.)	1	%	-	109	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-	-
Aroclor-1232	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1242	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1248	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1254	0.5	mg/kg	-	< 0.5	-	-
Aroclor-1260	0.5	mg/kg	-	< 0.5	-	-
Total PCB*	0.5	mg/kg	-	< 0.5	-	-
Dibutylchlorendate (surr.)	1	%	-	70	-	-
Tetrachloro-m-xylene (surr.)	1	%	-	88	-	-
Heavy Metals						
Arsenic	2	mg/kg	11	11	13	7.3
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	27	34	29	20
Copper	5	mg/kg	18	16	26	16
Lead	5	mg/kg	22	23	15	19
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	8.3	9.9	11	7.8
Zinc	5	mg/kg	22	27	41	27
% Moisture	1	%	16	18	21	17

Client Sample ID			TP111_0.2	TP111_0.5	TP112_0.2	TP112_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18594	S19-Oc18595	S19-Oc18597	S19-Oc18598
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	138	113	111	129
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	103	69	91	95
p-Terphenyl-d14 (surr.)	1	%	121	108	108	104

Client Sample ID			TP111_0.2	TP111_0.5	TP112_0.2	TP112_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18594	S19-Oc18595	S19-Oc18597	S19-Oc18598
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	-
Toxaphene	1	mg/kg	< 1	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	75	-	63	-
Tetrachloro-m-xylene (surr.)	1	%	90	-	75	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Coumaphos	2	mg/kg	< 2	-	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	-
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	-
EPN	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	-	< 0.2	-

Client Sample ID			TP111_0.2	TP111_0.5	TP112_0.2	TP112_0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18594	S19-Oc18595	S19-Oc18597	S19-Oc18598
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Monocrotophos	2	mg/kg	< 2	-	< 2	-
Naled	0.2	mg/kg	< 0.2	-	< 0.2	-
Omethoate	2	mg/kg	< 2	-	< 2	-
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	-
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	98	-	88	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	75	-	63	-
Tetrachloro-m-xylene (surr.)	1	%	90	-	75	-
Heavy Metals						
Arsenic	2	mg/kg	13	11	16	19
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	30	22	26	20
Copper	5	mg/kg	26	29	24	28
Lead	5	mg/kg	33	20	19	14
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	15	9.5	15	24
Zinc	5	mg/kg	55	43	68	68
% Moisture	1	%	20	21	12	15

Client Sample ID			TP113_0.2	TP113_1	TP114_0.2	TP114_2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18600	S19-Oc18601	S19-Oc18603	S19-Oc18604
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			TP113_0.2	TP113_1	TP114_0.2	TP114_2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18600	S19-Oc18601	S19-Oc18603	S19-Oc18604
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	110	116	116	117
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	91	50	73	67
p-Terphenyl-d14 (surr.)	1	%	118	105	98	104
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	-
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	-

Client Sample ID			TP113_0.2	TP113_1	TP114_0.2	TP114_2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18600	S19-Oc18601	S19-Oc18603	S19-Oc18604
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	-
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	-
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	-
Toxaphene	1	mg/kg	< 1	-	< 1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	-
Dibutylchlorendate (surr.)	1	%	62	-	67	-
Tetrachloro-m-xylene (surr.)	1	%	63	-	77	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Bolstar	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	< 0.2	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Coumaphos	2	mg/kg	< 2	-	< 2	-
Demeton-S	0.2	mg/kg	< 0.2	-	< 0.2	-
Demeton-O	0.2	mg/kg	< 0.2	-	< 0.2	-
Diazinon	0.2	mg/kg	< 0.2	-	< 0.2	-
Dichlorvos	0.2	mg/kg	< 0.2	-	< 0.2	-
Dimethoate	0.2	mg/kg	< 0.2	-	< 0.2	-
Disulfoton	0.2	mg/kg	< 0.2	-	< 0.2	-
EPN	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethion	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethoprop	0.2	mg/kg	< 0.2	-	< 0.2	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenitrothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fensulfothion	0.2	mg/kg	< 0.2	-	< 0.2	-
Fenthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Malathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Merphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Methyl parathion	0.2	mg/kg	< 0.2	-	< 0.2	-
Mevinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Monocrotophos	2	mg/kg	< 2	-	< 2	-
Naled	0.2	mg/kg	< 0.2	-	< 0.2	-
Omethoate	2	mg/kg	< 2	-	< 2	-
Phorate	0.2	mg/kg	< 0.2	-	< 0.2	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	< 0.2	-
Pyrazophos	0.2	mg/kg	< 0.2	-	< 0.2	-

Client Sample ID			TP113_0.2	TP113_1	TP114_0.2	TP114_2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18600	S19-Oc18601	S19-Oc18603	S19-Oc18604
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ronnel	0.2	mg/kg	< 0.2	-	< 0.2	-
Terbufos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	< 0.2	-
Tokuthion	0.2	mg/kg	< 0.2	-	< 0.2	-
Trichloronate	0.2	mg/kg	< 0.2	-	< 0.2	-
Triphenylphosphate (surr.)	1	%	99	-	85	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibutylchlorendate (surr.)	1	%	62	-	67	-
Tetrachloro-m-xylene (surr.)	1	%	63	-	77	-
Heavy Metals						
Arsenic	2	mg/kg	7.2	7.4	9.3	9.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	12	20	15	20
Copper	5	mg/kg	45	32	30	22
Lead	5	mg/kg	13	24	20	14
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	11	15	7.7	8.6
Zinc	5	mg/kg	48	44	39	29
% Moisture	1	%	19	18	13	17

Client Sample ID			TP115_0.2	TP115_1	TRIP BLANK	[R20]TRIP SPIKE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18607	S19-Oc18608	S19-Oc18609	S19-Oc18610
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	89
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	98
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	< 50	< 50	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	-
TRH >C16-C34	100	mg/kg	< 100	< 100	-	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-	-
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	-	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	98
TRH C10-C14	20	mg/kg	< 20	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	< 50	-	-
TRH C29-C36	50	mg/kg	< 50	< 50	-	-
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	-	-

Client Sample ID			TP115_0.2	TP115_1	TRIP BLANK	R20 TRIP SPIKE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18607	S19-Oc18608	S19-Oc18609	S19-Oc18610
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	98
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	97
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	130
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	97
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	95
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	96
4-Bromofluorobenzene (surr.)	1	%	105	119	96	89
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(b&j)fluoranthene N07	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Chrysene	0.5	mg/kg	< 0.5	< 0.5	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	-	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Pyrene	0.5	mg/kg	< 0.5	< 0.5	-	-
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	-	-
2-Fluorobiphenyl (surr.)	1	%	97	50	-	-
p-Terphenyl-d14 (surr.)	1	%	136	106	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-

Client Sample ID			TP115_0.2	TP115_1	TRIP BLANK	R20TRIP SPIKE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18607	S19-Oc18608	S19-Oc18609	S19-Oc18610
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.2	mg/kg	< 0.2	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	-	-
Dibutylchlorendate (surr.)	1	%	89	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	88	-	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Bolstar	0.2	mg/kg	< 0.2	-	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-	-
Coumaphos	2	mg/kg	< 2	-	-	-
Demeton-S	0.2	mg/kg	< 0.2	-	-	-
Demeton-O	0.2	mg/kg	< 0.2	-	-	-
Diazinon	0.2	mg/kg	< 0.2	-	-	-
Dichlorvos	0.2	mg/kg	< 0.2	-	-	-
Dimethoate	0.2	mg/kg	< 0.2	-	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-	-
EPN	0.2	mg/kg	< 0.2	-	-	-
Ethion	0.2	mg/kg	< 0.2	-	-	-
Ethoprop	0.2	mg/kg	< 0.2	-	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	-	-
Fenitrothion	0.2	mg/kg	< 0.2	-	-	-
Fensulfothion	0.2	mg/kg	< 0.2	-	-	-
Fenthion	0.2	mg/kg	< 0.2	-	-	-
Malathion	0.2	mg/kg	< 0.2	-	-	-
Merphos	0.2	mg/kg	< 0.2	-	-	-
Methyl parathion	0.2	mg/kg	< 0.2	-	-	-
Mevinphos	0.2	mg/kg	< 0.2	-	-	-
Monocrotophos	2	mg/kg	< 2	-	-	-
Naled	0.2	mg/kg	< 0.2	-	-	-
Omethoate	2	mg/kg	< 2	-	-	-
Phorate	0.2	mg/kg	< 0.2	-	-	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Pyrazophos	0.2	mg/kg	< 0.2	-	-	-
Ronnel	0.2	mg/kg	< 0.2	-	-	-
Terbufos	0.2	mg/kg	< 0.2	-	-	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	-	-
Tokuthion	0.2	mg/kg	< 0.2	-	-	-
Trichloronate	0.2	mg/kg	< 0.2	-	-	-
Triphenylphosphate (surr.)	1	%	74	-	-	-

Client Sample ID			TP115_0.2	TP115_1	TRIP BLANK	R20 TRIP SPIKE
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-Oc18607	S19-Oc18608	S19-Oc18609	S19-Oc18610
Date Sampled			Oct 08, 2019	Oct 08, 2019	Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	-	-
Total PCB*	0.5	mg/kg	< 0.5	-	-	-
Dibutylchlorendate (surr.)	1	%	89	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	88	-	-	-
Heavy Metals						
Arsenic	2	mg/kg	8.9	13	-	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	-
Chromium	5	mg/kg	24	31	-	-
Copper	5	mg/kg	8.9	25	-	-
Lead	5	mg/kg	22	25	-	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	-
Nickel	5	mg/kg	5.7	7.4	-	-
Zinc	5	mg/kg	11	25	-	-
% Moisture	1	%	12	22	-	-

Client Sample ID			MW05_0.2	TP110_0.2
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-Oc18614	S19-Oc18992
Date Sampled			Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene N02	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1) N04	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) N01	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1

Client Sample ID			MW05_0.2	TP110_0.2
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-Oc18614	S19-Oc18992
Date Sampled			Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit		
BTEX				
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	109	113
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	87	104
p-Terphenyl-d14 (surr.)	1	%	113	117
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05

Client Sample ID			MW05_0.2	TP110_0.2
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-Oc18614	S19-Oc18992
Date Sampled			Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit		
Organochlorine Pesticides				
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	78	67
Tetrachloro-m-xylene (surr.)	1	%	87	82
Organophosphorus Pesticides				
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2
Dimethoate	0.2	mg/kg	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	63	78
Polychlorinated Biphenyls				
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			MW05_0.2	TP110_0.2
Sample Matrix			Soil	Soil
Eurofins Sample No.			S19-Oc18614	S19-Oc18992
Date Sampled			Oct 08, 2019	Oct 08, 2019
Test/Reference	LOR	Unit		
Polychlorinated Biphenyls				
Dibutylchlorendate (surr.)	1	%	78	67
Tetrachloro-m-xylene (surr.)	1	%	87	82
Heavy Metals				
Arsenic	2	mg/kg	10	9.6
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	28	26
Copper	5	mg/kg	19	23
Lead	5	mg/kg	20	19
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	9.6	10
Zinc	5	mg/kg	28	40
% Moisture	1	%	20	12

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 17, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Oct 17, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Oct 17, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Oct 17, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 17, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Oct 17, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Oct 17, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Oct 17, 2019	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Oct 17, 2019	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Oct 17, 2019	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
% Moisture	Sydney	Oct 14, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	MW01_0.2	Oct 08, 2019		Soil	S19-Oc18552	X					X	X	X	
2	MW01_2	Oct 08, 2019		Soil	S19-Oc18553							X	X	
3	MW02_0.2	Oct 08, 2019		Soil	S19-Oc18554	X					X	X	X	
4	MW02_1	Oct 08, 2019		Soil	S19-Oc18555							X	X	
5	MW03_0.2	Oct 09, 2019		Soil	S19-Oc18556	X					X	X	X	
6	MW03_1.2	Oct 09, 2019		Soil	S19-Oc18557							X	X	
7	MW04_0.2	Oct 09, 2019		Soil	S19-Oc18558	X					X	X	X	
8	MW04_2	Oct 09, 2019		Soil	S19-Oc18559							X	X	
9	MW05_1	Oct 09, 2019		Soil	S19-Oc18560	X					X	X	X	

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Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	MW06_0.2	Oct 09, 2019		Soil	S19-Oc18561	X					X	X	X	
11	MW06_0.5	Oct 09, 2019		Soil	S19-Oc18562							X	X	
12	QA001_TK	Oct 08, 2019		Soil	S19-Oc18563						X	X	X	
13	QA1	Oct 08, 2019		Soil	S19-Oc18564						X	X	X	
14	TP101_0.2	Oct 08, 2019		Soil	S19-Oc18565						X	X	X	
15	TP101_0.5	Oct 08, 2019		Soil	S19-Oc18566							X	X	
16	TP101 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18567		X							
17	TP102_0.2	Oct 08, 2019		Soil	S19-Oc18568						X	X	X	
18	TP102_0.5	Oct 08, 2019		Soil	S19-Oc18569							X	X	
19	TP102 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18570		X							
20	TP103_0.2	Oct 08, 2019		Soil	S19-Oc18571						X	X	X	

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Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
21	TP103_1	Oct 08, 2019		Soil	S19-Oc18572							X	X	
22	TP103 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18573		X							
23	TP104_0.2	Oct 08, 2019		Soil	S19-Oc18574						X	X	X	
24	TP104_1	Oct 08, 2019		Soil	S19-Oc18575							X	X	
25	TP104 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18576		X							
26	TP105_0.2	Oct 08, 2019		Soil	S19-Oc18577						X	X	X	
27	TP105_1	Oct 08, 2019		Soil	S19-Oc18578							X	X	
28	TP105 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18579		X							
29	TP106_0.2	Oct 08, 2019		Soil	S19-Oc18580						X	X	X	
30	TP106_0.5	Oct 08, 2019		Soil	S19-Oc18581							X	X	

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NATA # 1261
Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
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NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
31	TP106 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18582		X							
32	TP107_0.2	Oct 08, 2019		Soil	S19-Oc18583						X	X	X	
33	TP107_0.5	Oct 08, 2019		Soil	S19-Oc18584							X	X	
34	TP107 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18585		X							
35	TP108_0.2	Oct 08, 2019		Soil	S19-Oc18586						X	X	X	
36	TP108_0.5	Oct 08, 2019		Soil	S19-Oc18587							X	X	
37	TP108 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18588		X							
38	TP109_0.2	Oct 08, 2019		Soil	S19-Oc18589						X	X	X	
39	TP109_0.5	Oct 08, 2019		Soil	S19-Oc18590							X	X	
40	TP109 -	Oct 08, 2019		Soil	S19-Oc18591		X							

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NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
	ASB_0.1													
41	TP110_1	Oct 08, 2019		Soil	S19-Oc18592							X	X	
42	TP110 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18593		X							
43	TP111_0.2	Oct 08, 2019		Soil	S19-Oc18594						X	X	X	
44	TP111_0.5	Oct 08, 2019		Soil	S19-Oc18595							X	X	
45	TP111 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18596		X							
46	TP112_0.2	Oct 08, 2019		Soil	S19-Oc18597						X	X	X	
47	TP112_0.5	Oct 08, 2019		Soil	S19-Oc18598							X	X	
48	TP112 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18599		X							
49	TP113_0.2	Oct 08, 2019		Soil	S19-Oc18600						X	X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
50	TP113_1	Oct 08, 2019		Soil	S19-Oc18601							X	X	
51	TP113 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18602		X							
52	TP114_0.2	Oct 08, 2019		Soil	S19-Oc18603						X	X	X	
53	TP114_2	Oct 08, 2019		Soil	S19-Oc18604							X	X	
54	TP114 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18605		X							
55	TP114 - ASB_0.5	Oct 08, 2019		Soil	S19-Oc18606		X							
56	TP115_0.2	Oct 08, 2019		Soil	S19-Oc18607						X	X	X	
57	TP115_1	Oct 08, 2019		Soil	S19-Oc18608							X	X	
58	TRIP BLANK	Oct 08, 2019		Soil	S19-Oc18609									X
59	TRIP SPIKE	Oct 08, 2019		Soil	S19-Oc18610									X

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
60	FIELD WATER	Oct 08, 2019		Water	S19-Oc18612					X				
61	MW05_0.2	Oct 08, 2019		Soil	S19-Oc18614	X					X	X	X	
62	TP115 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18622		X							
63	MW01_0.5	Oct 08, 2019		Soil	S19-Oc18629				X					
64	MW01_1	Oct 08, 2019		Soil	S19-Oc18630				X					
65	MW01_3	Oct 08, 2019		Soil	S19-Oc18631				X					
66	MW01_4	Oct 08, 2019		Soil	S19-Oc18632				X					
67	MW01_5	Oct 08, 2019		Soil	S19-Oc18633				X					
68	MW01_6	Oct 08, 2019		Soil	S19-Oc18634				X					
69	MW01_7	Oct 08, 2019		Soil	S19-Oc18635				X					
70	MW01_8	Oct 08, 2019		Soil	S19-Oc18636				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
71	MW02_0.5	Oct 08, 2019		Soil	S19-Oc18637				X					
72	MW02_2	Oct 08, 2019		Soil	S19-Oc18638				X					
73	MW02_3	Oct 08, 2019		Soil	S19-Oc18639				X					
74	MW02_4	Oct 08, 2019		Soil	S19-Oc18640				X					
75	MW02_5	Oct 08, 2019		Soil	S19-Oc18641				X					
76	MW02_6	Oct 08, 2019		Soil	S19-Oc18642				X					
77	MW02_7	Oct 08, 2019		Soil	S19-Oc18643				X					
78	MW02_10	Oct 09, 2019		Soil	S19-Oc18644				X					
79	MW03_0.5	Oct 09, 2019		Soil	S19-Oc18645				X					
80	MW03_2	Oct 09, 2019		Soil	S19-Oc18646				X					
81	MW03_2.7	Oct 09, 2019		Soil	S19-Oc18647				X					
82	MW03_4	Oct 09, 2019		Soil	S19-Oc18648				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
83	MW03_5	Oct 09, 2019		Soil	S19-Oc18649				X					
84	MW03_6.5	Oct 09, 2019		Soil	S19-Oc18650				X					
85	MW04_0.1	Oct 09, 2019		Soil	S19-Oc18651			X						
86	MW04_0.5	Oct 09, 2019		Soil	S19-Oc18652				X					
87	MW04_1	Oct 09, 2019		Soil	S19-Oc18653				X					
88	MW04_3	Oct 09, 2019		Soil	S19-Oc18654				X					
89	MW04_4	Oct 09, 2019		Soil	S19-Oc18655				X					
90	MW04_5	Oct 09, 2019		Soil	S19-Oc18656				X					
91	MW04_6	Oct 09, 2019		Soil	S19-Oc18657				X					
92	MW04_7	Oct 09, 2019		Soil	S19-Oc18658				X					
93	MW04_8	Oct 09, 2019		Soil	S19-Oc18659				X					
94	MW05_0.5	Oct 09, 2019		Soil	S19-Oc18660				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
95	MW05_2	Oct 09, 2019		Soil	S19-Oc18661				X					
96	MW05_3	Oct 09, 2019		Soil	S19-Oc18662				X					
97	MW05_4	Oct 09, 2019		Soil	S19-Oc18663				X					
98	MW05_5	Oct 09, 2019		Soil	S19-Oc18664				X					
99	MW05_6	Oct 09, 2019		Soil	S19-Oc18665				X					
100	MW05_7	Oct 09, 2019		Soil	S19-Oc18666				X					
101	MW05_8	Oct 09, 2019		Soil	S19-Oc18667				X					
102	MW05_10	Oct 09, 2019		Soil	S19-Oc18668				X					
103	MW06_1	Oct 09, 2019		Soil	S19-Oc18669				X					
104	MW06_2	Oct 08, 2019		Soil	S19-Oc18670				X					
105	MW06_4	Oct 08, 2019		Soil	S19-Oc18671				X					
106	QA003_TK	Oct 09, 2019		Soil	S19-Oc18672				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
107	QA004_TK	Oct 08, 2019		Soil	S19-Oc18673				X					
108	TP101_1	Oct 08, 2019		Soil	S19-Oc18674				X					
109	TP102_1	Oct 08, 2019		Soil	S19-Oc18675				X					
110	TP103_0.5	Oct 08, 2019		Soil	S19-Oc18676				X					
111	TP104_0.5	Oct 08, 2019		Soil	S19-Oc18677				X					
112	TP104_1.5	Oct 08, 2019		Soil	S19-Oc18678				X					
113	TP105_0.5	Oct 08, 2019		Soil	S19-Oc18679				X					
114	TP106_1	Oct 08, 2019		Soil	S19-Oc18680				X					
115	TP107_1	Oct 08, 2019		Soil	S19-Oc18681				X					
116	TP108_1	Oct 08, 2019		Soil	S19-Oc18682				X					
117	TP109_1	Oct 08, 2019		Soil	S19-Oc18683				X					
118	TP110_0.5	Oct 08, 2019		Soil	S19-Oc18684				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
119	TP110_2	Oct 08, 2019		Soil	S19-Oc18685				X					
120	TP111_1	Oct 08, 2019		Soil	S19-Oc18686				X					
121	TP112_1	Oct 08, 2019		Soil	S19-Oc18687				X					
122	TP113_0.5	Oct 08, 2019		Soil	S19-Oc18688				X					
123	TP113_2	Oct 08, 2019		Soil	S19-Oc18689				X					
124	TP114_0.5	Oct 08, 2019		Soil	S19-Oc18690				X					
125	TP114_1	Oct 08, 2019		Soil	S19-Oc18691				X					
126	TP115_0.5	Oct 08, 2019		Soil	S19-Oc18692				X					
127	TP110_0.2	Oct 08, 2019		Soil	S19-Oc18992						X	X	X	
Test Counts						7	16	1	63	1	24	44	44	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	121			70-130	Pass	
TRH C6-C10	%	76			70-130	Pass	
TRH C6-C10	%	81			70-130	Pass	
TRH >C10-C16	%	71			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	79			70-130	Pass	
TRH C10-C14	%	74			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	83			70-130	Pass	
Toluene	%	87			70-130	Pass	
Ethylbenzene	%	84			70-130	Pass	
m&p-Xylenes	%	90			70-130	Pass	
o-Xylene	%	89			70-130	Pass	
Xylenes - Total	%	90			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	106			70-130	Pass	
Acenaphthylene	%	102			70-130	Pass	
Anthracene	%	98			70-130	Pass	
Benz(a)anthracene	%	97			70-130	Pass	
Benzo(a)pyrene	%	102			70-130	Pass	
Benzo(b&j)fluoranthene	%	89			70-130	Pass	
Benzo(g.h.i)perylene	%	107			70-130	Pass	
Benzo(k)fluoranthene	%	106			70-130	Pass	
Chrysene	%	105			70-130	Pass	
Dibenz(a.h)anthracene	%	99			70-130	Pass	
Fluoranthene	%	100			70-130	Pass	
Fluorene	%	101			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	107			70-130	Pass	
Phenanthrene	%	99			70-130	Pass	
Pyrene	%	101			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	121			70-130	Pass	
4.4'-DDD	%	122			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDE			%	127			70-130	Pass	
4.4'-DDT			%	105			70-130	Pass	
a-BHC			%	121			70-130	Pass	
Aldrin			%	119			70-130	Pass	
b-BHC			%	121			70-130	Pass	
d-BHC			%	122			70-130	Pass	
Dieldrin			%	120			70-130	Pass	
Endosulfan I			%	118			70-130	Pass	
Endosulfan II			%	126			70-130	Pass	
Endosulfan sulphate			%	121			70-130	Pass	
Endrin			%	125			70-130	Pass	
Endrin aldehyde			%	112			70-130	Pass	
Endrin ketone			%	106			70-130	Pass	
g-BHC (Lindane)			%	120			70-130	Pass	
Heptachlor			%	116			70-130	Pass	
Heptachlor epoxide			%	116			70-130	Pass	
Hexachlorobenzene			%	127			70-130	Pass	
Methoxychlor			%	116			70-130	Pass	
Toxaphene			%	121			70-130	Pass	
LCS - % Recovery									
Organophosphorus Pesticides									
Diazinon			%	102			70-130	Pass	
Dimethoate			%	99			70-130	Pass	
Ethion			%	92			70-130	Pass	
Fenitrothion			%	88			70-130	Pass	
Methyl parathion			%	106			70-130	Pass	
Mevinphos			%	97			70-130	Pass	
LCS - % Recovery									
Polychlorinated Biphenyls									
Aroclor-1260			%	78			70-130	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	116			70-130	Pass	
Cadmium			%	110			70-130	Pass	
Chromium			%	108			70-130	Pass	
Copper			%	103			70-130	Pass	
Lead			%	109			70-130	Pass	
Mercury			%	107			70-130	Pass	
Nickel			%	106			70-130	Pass	
Zinc			%	106			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Oc18558	CP	%	112			70-130	Pass	
TRH C6-C10	S19-Oc18558	CP	%	72			70-130	Pass	
TRH >C10-C16	S19-Oc18558	CP	%	77			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Oc18558	CP	%	74			70-130	Pass	
TRH C10-C14	S19-Oc18558	CP	%	79			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Oc18558	CP	%	77			70-130	Pass	
Toluene	S19-Oc18558	CP	%	75			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Ethylbenzene	S19-Oc18558	CP	%	74			70-130	Pass	
m&p-Xylenes	S19-Oc18558	CP	%	75			70-130	Pass	
o-Xylene	S19-Oc18558	CP	%	75			70-130	Pass	
Xylenes - Total	S19-Oc18558	CP	%	75			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-Oc18561	CP	%	78			70-130	Pass	
Acenaphthylene	S19-Oc18561	CP	%	77			70-130	Pass	
Anthracene	S19-Oc18561	CP	%	85			70-130	Pass	
Benz(a)anthracene	S19-Oc18561	CP	%	78			70-130	Pass	
Benzo(a)pyrene	S19-Oc18561	CP	%	72			70-130	Pass	
Benzo(b&j)fluoranthene	S19-Oc18561	CP	%	80			70-130	Pass	
Benzo(g.h.i)perylene	S19-Oc18561	CP	%	85			70-130	Pass	
Benzo(k)fluoranthene	S19-Oc18561	CP	%	92			70-130	Pass	
Chrysene	S19-Oc18561	CP	%	87			70-130	Pass	
Dibenz(a.h)anthracene	S19-Oc18561	CP	%	77			70-130	Pass	
Fluoranthene	S19-Oc18561	CP	%	80			70-130	Pass	
Fluorene	S19-Oc18561	CP	%	80			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S19-Oc18561	CP	%	76			70-130	Pass	
Naphthalene	S19-Oc18561	CP	%	80			70-130	Pass	
Phenanthrene	S19-Oc18561	CP	%	75			70-130	Pass	
Pyrene	S19-Oc18561	CP	%	76			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S19-Oc18561	CP	%	101			70-130	Pass	
Dimethoate	S19-Oc18561	CP	%	92			70-130	Pass	
Ethion	S19-Oc18561	CP	%	92			70-130	Pass	
Fenitrothion	S19-Oc18561	CP	%	85			70-130	Pass	
Methyl parathion	S19-Oc18561	CP	%	104			70-130	Pass	
Mevinphos	S19-Oc18561	CP	%	95			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S19-Oc18568	CP	%	108			70-130	Pass	
4.4'-DDD	S19-Oc18568	CP	%	105			70-130	Pass	
4.4'-DDE	S19-Oc18568	CP	%	105			70-130	Pass	
4.4'-DDT	S19-Oc18568	CP	%	71			70-130	Pass	
a-BHC	S19-Oc18568	CP	%	101			70-130	Pass	
Aldrin	S19-Oc18568	CP	%	112			70-130	Pass	
b-BHC	S19-Oc18568	CP	%	101			70-130	Pass	
d-BHC	S19-Oc18568	CP	%	99			70-130	Pass	
Dieldrin	S19-Oc18568	CP	%	109			70-130	Pass	
Endosulfan I	S19-Oc18568	CP	%	112			70-130	Pass	
Endosulfan II	S19-Oc18568	CP	%	102			70-130	Pass	
Endosulfan sulphate	S19-Oc18568	CP	%	96			70-130	Pass	
Endrin	S19-Oc18568	CP	%	108			70-130	Pass	
Endrin aldehyde	S19-Oc18568	CP	%	87			70-130	Pass	
Endrin ketone	S19-Oc18568	CP	%	86			70-130	Pass	
g-BHC (Lindane)	S19-Oc18568	CP	%	96			70-130	Pass	
Heptachlor	S19-Oc18568	CP	%	91			70-130	Pass	
Heptachlor epoxide	S19-Oc18568	CP	%	110			70-130	Pass	
Hexachlorobenzene	S19-Oc18568	CP	%	109			70-130	Pass	
Methoxychlor	S19-Oc18568	CP	%	77			70-130	Pass	
Toxaphene	S19-Oc18568	CP	%	99			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	S19-Oc18568	CP	%	94			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Oc18575	CP	%	95			70-130	Pass	
Cadmium	S19-Oc18575	CP	%	96			70-130	Pass	
Chromium	S19-Oc18575	CP	%	97			70-130	Pass	
Copper	S19-Oc18575	CP	%	94			70-130	Pass	
Lead	S19-Oc18575	CP	%	92			70-130	Pass	
Mercury	S19-Oc18575	CP	%	98			70-130	Pass	
Nickel	S19-Oc18575	CP	%	99			70-130	Pass	
Zinc	S19-Oc18575	CP	%	106			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Oc18584	CP	%	89			70-130	Pass	
TRH C6-C10	S19-Oc18584	CP	%	74			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Oc18584	CP	%	77			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Oc18584	CP	%	81			70-130	Pass	
Toluene	S19-Oc18584	CP	%	78			70-130	Pass	
Ethylbenzene	S19-Oc18584	CP	%	77			70-130	Pass	
m&p-Xylenes	S19-Oc18584	CP	%	78			70-130	Pass	
o-Xylene	S19-Oc18584	CP	%	77			70-130	Pass	
Xylenes - Total	S19-Oc18584	CP	%	78			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Oc18590	CP	%	116			70-130	Pass	
Cadmium	S19-Oc18590	CP	%	123			70-130	Pass	
Chromium	S19-Oc18590	CP	%	116			70-130	Pass	
Copper	S19-Oc18590	CP	%	115			70-130	Pass	
Lead	S19-Oc18590	CP	%	118			70-130	Pass	
Mercury	S19-Oc18590	CP	%	112			70-130	Pass	
Nickel	S19-Oc18590	CP	%	117			70-130	Pass	
Zinc	S19-Oc18590	CP	%	109			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Oc18555	CP	%	10	10	1.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Oc18557	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S19-Oc18557	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S19-Oc18557	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S19-Oc18557	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Oc18557	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S19-Oc18557	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S19-Oc18557	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S19-Oc18557	CP	mg/kg	< 50	< 50	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Oc18557	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Oc18557	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Oc18557	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Oc18557	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Oc18557	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Oc18557	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S19-Oc18557	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S19-Oc18565	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S19-Oc18565	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S19-Oc18565	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S19-Oc18565	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S19-Oc18565	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S19-Oc18565	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S19-Oc18565	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S19-Oc18565	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S19-Oc18565	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1254	S19-Oc18565	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S19-Oc18565	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Oc18565	CP	%	17	19	11	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S19-Oc18574	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S19-Oc18574	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S19-Oc18574	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S19-Oc18574	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Oc18574	CP	mg/kg	4.1	4.1	<1	30%	Pass	
Cadmium	S19-Oc18574	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Oc18574	CP	mg/kg	18	21	17	30%	Pass	
Copper	S19-Oc18574	CP	mg/kg	28	32	13	30%	Pass	
Lead	S19-Oc18574	CP	mg/kg	11	12	8.0	30%	Pass	
Mercury	S19-Oc18574	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Oc18574	CP	mg/kg	18	21	16	30%	Pass	
Zinc	S19-Oc18574	CP	mg/kg	54	61	12	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Oc18580	CP	%	15	15	1.0	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Oc18583	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Oc18583	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S19-Oc18583	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S19-Oc18583	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S19-Oc18583	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Oc18583	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S19-Oc18583	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S19-Oc18583	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S19-Oc18583	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Oc18583	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Oc18583	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Oc18583	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Oc18583	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Oc18583	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Oc18583	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Oc18589	CP	mg/kg	11	11	<1	30%	Pass	
Cadmium	S19-Oc18589	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Oc18589	CP	mg/kg	34	33	4.0	30%	Pass	
Copper	S19-Oc18589	CP	mg/kg	16	18	10	30%	Pass	
Lead	S19-Oc18589	CP	mg/kg	23	25	7.0	30%	Pass	
Mercury	S19-Oc18589	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Oc18589	CP	mg/kg	9.9	9.7	2.0	30%	Pass	
Zinc	S19-Oc18589	CP	mg/kg	27	28	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Oc18595	CP	%	21	21	2.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S19-Oc18597	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S19-Oc18597	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S19-Oc18597	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Toxaphene	S19-Oc18597	CP	mg/kg	< 1	< 1	<1	30%	Pass	

Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S19-Oc18597	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S19-Oc18597	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S19-Oc18597	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S19-Oc18597	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S19-Oc18597	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S19-Oc18597	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S19-Oc18597	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Oc18614	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Oc18614	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Oc18614	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Oc18614	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Oc18614	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Oc18614	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Oc18614	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Oc18614	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Oc18614	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Oc18992	CP	%	12	12	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised By

Ursula Long	Analytical Services Manager
Gabriele Cordero	Senior Analyst-Metal (NSW)
Andrew Sullivan	Senior Analyst-Organic (NSW)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Arcadis Australia
Lvl 16/580 George Street
Sydney
NSW 2000

Attention: **Jack Palma**

Report **682206-W**
Project name 10035157
Project ID 10035157
Received Date Oct 14, 2019

Client Sample ID			**FIELD WATER**
Sample Matrix			**Water**
Eurofins Sample No.			**S19-Oc18612**
Date Sampled			**Oct 08, 2019**
Test/Reference	LOR	Unit	
Heavy Metals			
Arsenic	0.001	mg/L	< 0.001
Cadmium	0.0002	mg/L	< 0.0002
Chromium	0.001	mg/L	0.003
Copper	0.001	mg/L	0.038
Lead	0.001	mg/L	0.002
Mercury	0.0001	mg/L	< 0.0001
Nickel	0.001	mg/L	< 0.001
Zinc	0.005	mg/L	0.043

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Metals M8	Sydney	Oct 17, 2019	180 Days

- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS

eurofins | Environment Testing

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Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
External Laboratory														
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**									
1	MW01_0.2	Oct 08, 2019		Soil	S19-Oc18552	X					X	X	X	
2	MW01_2	Oct 08, 2019		Soil	S19-Oc18553							X	X	
3	MW02_0.2	Oct 08, 2019		Soil	S19-Oc18554	X					X	X	X	
4	MW02_1	Oct 08, 2019		Soil	S19-Oc18555							X	X	
5	MW03_0.2	Oct 09, 2019		Soil	S19-Oc18556	X					X	X	X	
6	MW03_1.2	Oct 09, 2019		Soil	S19-Oc18557							X	X	
7	MW04_0.2	Oct 09, 2019		Soil	S19-Oc18558	X					X	X	X	
8	MW04_2	Oct 09, 2019		Soil	S19-Oc18559							X	X	
9	MW05_1	Oct 09, 2019		Soil	S19-Oc18560	X					X	X	X	

eurofins | Environment Testing

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Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
10	MW06_0.2	Oct 09, 2019		Soil	S19-Oc18561	X					X	X	X	
11	MW06_0.5	Oct 09, 2019		Soil	S19-Oc18562							X	X	
12	QA001_TK	Oct 08, 2019		Soil	S19-Oc18563						X	X	X	
13	QA1	Oct 08, 2019		Soil	S19-Oc18564						X	X	X	
14	TP101_0.2	Oct 08, 2019		Soil	S19-Oc18565						X	X	X	
15	TP101_0.5	Oct 08, 2019		Soil	S19-Oc18566							X	X	
16	TP101 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18567		X							
17	TP102_0.2	Oct 08, 2019		Soil	S19-Oc18568						X	X	X	
18	TP102_0.5	Oct 08, 2019		Soil	S19-Oc18569							X	X	
19	TP102 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18570		X							
20	TP103_0.2	Oct 08, 2019		Soil	S19-Oc18571						X	X	X	

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Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
21	TP103_1	Oct 08, 2019		Soil	S19-Oc18572							X	X	
22	TP103 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18573		X							
23	TP104_0.2	Oct 08, 2019		Soil	S19-Oc18574						X	X	X	
24	TP104_1	Oct 08, 2019		Soil	S19-Oc18575							X	X	
25	TP104 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18576		X							
26	TP105_0.2	Oct 08, 2019		Soil	S19-Oc18577						X	X	X	
27	TP105_1	Oct 08, 2019		Soil	S19-Oc18578							X	X	
28	TP105 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18579		X							
29	TP106_0.2	Oct 08, 2019		Soil	S19-Oc18580						X	X	X	
30	TP106_0.5	Oct 08, 2019		Soil	S19-Oc18581							X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
31	TP106 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18582		X							
32	TP107_0.2	Oct 08, 2019		Soil	S19-Oc18583						X	X	X	
33	TP107_0.5	Oct 08, 2019		Soil	S19-Oc18584							X	X	
34	TP107 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18585		X							
35	TP108_0.2	Oct 08, 2019		Soil	S19-Oc18586						X	X	X	
36	TP108_0.5	Oct 08, 2019		Soil	S19-Oc18587							X	X	
37	TP108 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18588		X							
38	TP109_0.2	Oct 08, 2019		Soil	S19-Oc18589						X	X	X	
39	TP109_0.5	Oct 08, 2019		Soil	S19-Oc18590							X	X	
40	TP109 -	Oct 08, 2019		Soil	S19-Oc18591		X							

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
	ASB_0.1													
41	TP110_1	Oct 08, 2019		Soil	S19-Oc18592							X	X	
42	TP110 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18593		X							
43	TP111_0.2	Oct 08, 2019		Soil	S19-Oc18594						X	X	X	
44	TP111_0.5	Oct 08, 2019		Soil	S19-Oc18595							X	X	
45	TP111 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18596		X							
46	TP112_0.2	Oct 08, 2019		Soil	S19-Oc18597						X	X	X	
47	TP112_0.5	Oct 08, 2019		Soil	S19-Oc18598							X	X	
48	TP112 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18599		X							
49	TP113_0.2	Oct 08, 2019		Soil	S19-Oc18600						X	X	X	

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
50	TP113_1	Oct 08, 2019		Soil	S19-Oc18601							X	X	
51	TP113 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18602		X							
52	TP114_0.2	Oct 08, 2019		Soil	S19-Oc18603						X	X	X	
53	TP114_2	Oct 08, 2019		Soil	S19-Oc18604							X	X	
54	TP114 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18605		X							
55	TP114 - ASB_0.5	Oct 08, 2019		Soil	S19-Oc18606		X							
56	TP115_0.2	Oct 08, 2019		Soil	S19-Oc18607						X	X	X	
57	TP115_1	Oct 08, 2019		Soil	S19-Oc18608							X	X	
58	TRIP BLANK	Oct 08, 2019		Soil	S19-Oc18609									X
59	TRIP SPIKE	Oct 08, 2019		Soil	S19-Oc18610									X

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
60	FIELD WATER	Oct 08, 2019		Water	S19-Oc18612					X				
61	MW05_0.2	Oct 08, 2019		Soil	S19-Oc18614	X					X	X	X	
62	TP115 - ASB_0.1	Oct 08, 2019		Soil	S19-Oc18622		X							
63	MW01_0.5	Oct 08, 2019		Soil	S19-Oc18629				X					
64	MW01_1	Oct 08, 2019		Soil	S19-Oc18630				X					
65	MW01_3	Oct 08, 2019		Soil	S19-Oc18631				X					
66	MW01_4	Oct 08, 2019		Soil	S19-Oc18632				X					
67	MW01_5	Oct 08, 2019		Soil	S19-Oc18633				X					
68	MW01_6	Oct 08, 2019		Soil	S19-Oc18634				X					
69	MW01_7	Oct 08, 2019		Soil	S19-Oc18635				X					
70	MW01_8	Oct 08, 2019		Soil	S19-Oc18636				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
71	MW02_0.5	Oct 08, 2019		Soil	S19-Oc18637				X					
72	MW02_2	Oct 08, 2019		Soil	S19-Oc18638				X					
73	MW02_3	Oct 08, 2019		Soil	S19-Oc18639				X					
74	MW02_4	Oct 08, 2019		Soil	S19-Oc18640				X					
75	MW02_5	Oct 08, 2019		Soil	S19-Oc18641				X					
76	MW02_6	Oct 08, 2019		Soil	S19-Oc18642				X					
77	MW02_7	Oct 08, 2019		Soil	S19-Oc18643				X					
78	MW02_10	Oct 09, 2019		Soil	S19-Oc18644				X					
79	MW03_0.5	Oct 09, 2019		Soil	S19-Oc18645				X					
80	MW03_2	Oct 09, 2019		Soil	S19-Oc18646				X					
81	MW03_2.7	Oct 09, 2019		Soil	S19-Oc18647				X					
82	MW03_4	Oct 09, 2019		Soil	S19-Oc18648				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
83	MW03_5	Oct 09, 2019		Soil	S19-Oc18649				X					
84	MW03_6.5	Oct 09, 2019		Soil	S19-Oc18650				X					
85	MW04_0.1	Oct 09, 2019		Soil	S19-Oc18651			X						
86	MW04_0.5	Oct 09, 2019		Soil	S19-Oc18652				X					
87	MW04_1	Oct 09, 2019		Soil	S19-Oc18653				X					
88	MW04_3	Oct 09, 2019		Soil	S19-Oc18654				X					
89	MW04_4	Oct 09, 2019		Soil	S19-Oc18655				X					
90	MW04_5	Oct 09, 2019		Soil	S19-Oc18656				X					
91	MW04_6	Oct 09, 2019		Soil	S19-Oc18657				X					
92	MW04_7	Oct 09, 2019		Soil	S19-Oc18658				X					
93	MW04_8	Oct 09, 2019		Soil	S19-Oc18659				X					
94	MW05_0.5	Oct 09, 2019		Soil	S19-Oc18660				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
95	MW05_2	Oct 09, 2019		Soil	S19-Oc18661				X					
96	MW05_3	Oct 09, 2019		Soil	S19-Oc18662				X					
97	MW05_4	Oct 09, 2019		Soil	S19-Oc18663				X					
98	MW05_5	Oct 09, 2019		Soil	S19-Oc18664				X					
99	MW05_6	Oct 09, 2019		Soil	S19-Oc18665				X					
100	MW05_7	Oct 09, 2019		Soil	S19-Oc18666				X					
101	MW05_8	Oct 09, 2019		Soil	S19-Oc18667				X					
102	MW05_10	Oct 09, 2019		Soil	S19-Oc18668				X					
103	MW06_1	Oct 09, 2019		Soil	S19-Oc18669				X					
104	MW06_2	Oct 08, 2019		Soil	S19-Oc18670				X					
105	MW06_4	Oct 08, 2019		Soil	S19-Oc18671				X					
106	QA003_TK	Oct 09, 2019		Soil	S19-Oc18672				X					

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Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
107	QA004_TK	Oct 08, 2019		Soil	S19-Oc18673				X					
108	TP101_1	Oct 08, 2019		Soil	S19-Oc18674				X					
109	TP102_1	Oct 08, 2019		Soil	S19-Oc18675				X					
110	TP103_0.5	Oct 08, 2019		Soil	S19-Oc18676				X					
111	TP104_0.5	Oct 08, 2019		Soil	S19-Oc18677				X					
112	TP104_1.5	Oct 08, 2019		Soil	S19-Oc18678				X					
113	TP105_0.5	Oct 08, 2019		Soil	S19-Oc18679				X					
114	TP106_1	Oct 08, 2019		Soil	S19-Oc18680				X					
115	TP107_1	Oct 08, 2019		Soil	S19-Oc18681				X					
116	TP108_1	Oct 08, 2019		Soil	S19-Oc18682				X					
117	TP109_1	Oct 08, 2019		Soil	S19-Oc18683				X					
118	TP110_0.5	Oct 08, 2019		Soil	S19-Oc18684				X					

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Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 682206
Phone: 02 8907 9000
Fax:

Received: Oct 14, 2019 11:37 AM
Due: Oct 18, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	CANCELLED	HOLD	Metals M8	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271														
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794														
Perth Laboratory - NATA Site # 23736														
119	TP110_2	Oct 08, 2019		Soil	S19-Oc18685				X					
120	TP111_1	Oct 08, 2019		Soil	S19-Oc18686				X					
121	TP112_1	Oct 08, 2019		Soil	S19-Oc18687				X					
122	TP113_0.5	Oct 08, 2019		Soil	S19-Oc18688				X					
123	TP113_2	Oct 08, 2019		Soil	S19-Oc18689				X					
124	TP114_0.5	Oct 08, 2019		Soil	S19-Oc18690				X					
125	TP114_1	Oct 08, 2019		Soil	S19-Oc18691				X					
126	TP115_0.5	Oct 08, 2019		Soil	S19-Oc18692				X					
127	TP110_0.2	Oct 08, 2019		Soil	S19-Oc18992						X	X	X	
Test Counts						7	16	1	63	1	24	44	44	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Arsenic			mg/L	< 0.001			0.001	Pass	
Cadmium			mg/L	< 0.0002			0.0002	Pass	
Chromium			mg/L	< 0.001			0.001	Pass	
Copper			mg/L	< 0.001			0.001	Pass	
Lead			mg/L	< 0.001			0.001	Pass	
Mercury			mg/L	< 0.0001			0.0001	Pass	
Nickel			mg/L	< 0.001			0.001	Pass	
Zinc			mg/L	< 0.005			0.005	Pass	
LCS - % Recovery									
Heavy Metals									
Arsenic			%	96			70-130	Pass	
Cadmium			%	101			70-130	Pass	
Chromium			%	101			70-130	Pass	
Copper			%	99			70-130	Pass	
Lead			%	100			70-130	Pass	
Mercury			%	104			70-130	Pass	
Nickel			%	98			70-130	Pass	
Zinc			%	101			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Oc25318	NCP	%	100			70-130	Pass	
Cadmium	S19-Oc25318	NCP	%	96			70-130	Pass	
Chromium	S19-Oc25318	NCP	%	102			70-130	Pass	
Copper	S19-Oc25318	NCP	%	97			70-130	Pass	
Lead	S19-Oc25318	NCP	%	101			70-130	Pass	
Mercury	S19-Oc25318	NCP	%	105			70-130	Pass	
Nickel	S19-Oc25318	NCP	%	98			70-130	Pass	
Zinc	S19-Oc25318	NCP	%	93			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Oc18612	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	S19-Oc18612	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S19-Oc18612	CP	mg/L	0.003	0.003	1.0	30%	Pass	
Copper	S19-Oc18612	CP	mg/L	0.038	0.037	3.0	30%	Pass	
Lead	S19-Oc18612	CP	mg/L	0.002	0.002	11	30%	Pass	
Mercury	S19-Oc18612	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S19-Oc18612	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc	S19-Oc18612	CP	mg/L	0.043	0.038	11	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised By

Ursula Long	Analytical Services Manager
Gabriele Cordero	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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#AU04_Enviro_Sample_NSW

To: Ursula Long
Subject: RE: Eurofins Test Results, Invoice - Report 682206 : Site 10035157 (10035157)

From: Palma, Jack [mailto:Jack.Palma@arcadis.com]
Sent: Monday, 21 October 2019 11:02 AM
To: Asim Khan
Subject: RE: Eurofins Test Results, Invoice - Report 682206 : Site 10035157 (10035157)

EXTERNAL EMAIL*

Hi Asim,
Could I please have MW02 – 2.0 analysed for **B7 - TRH, BTEXN, PAH, 8 Metals** on 2-day TAT.
Before we go ahead could you please indicate what this might cost?
Thanks

Kind Regards

Jack Palma | Environmental Scientist | jack.palma@arcadis.com
Arcadis | Level 16, 580 George Street, Sydney | NSW, 2000 | Australia
T. + 61 2 8907 4172 | M. +61 408 988 954
www.arcadis.com/au

ARCADIS Design & Consultancy for natural and built assets
Be green, leave it on the screen.

From: AsimKhan@eurofins.com <AsimKhan@eurofins.com>
Sent: Friday, 18 October 2019 6:43 PM
To: Palma, Jack <Jack.Palma@arcadis.com>
Cc: Keatley, Tom <Tom.Keatley@arcadis.com>
Subject: Eurofins Test Results, Invoice - Report 682206 : Site 10035157 (10035157)

Please find attached results and invoice for your project in the subject header.

Please note: My office hours are 12 pm to 8 pm.

Kind regards,

Asim Khan
Analytical Services Manager

Eurofins | Environment Testing
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone : +61 2 9900 8432

Phone : +61 429 051 456
Email : AsimKhan@eurofins.com
Website : www.eurofins.com.au/environmental-testing

EnviroNote 1079 - PFAS Fingerprinting
EnviroNote 1080 - Total Organofluorine Analysis & PFAS Investigations

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NATA # 1261 Site # 20794

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Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Arcadis Australia**
Contact name:	Jack Palma
Project name:	ADDITIONAL - 10035157
Project ID:	10035157
COC number:	Not provided
Turn around time:	2 Day
Date/Time received:	Oct 21, 2019 1:52 PM
Eurofins reference:	**683645**

Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☑ All samples have been received as described on the above COC.
- ☑ COC has been completed correctly.
- ☑ Attempt to chill was evident.
- ☑ Appropriately preserved sample containers have been used.
- ☑ All samples were received in good condition.
- ☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☑ Appropriate sample containers have been used.
- ☒ Split sample sent to requested external lab.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to Jack Palma - jack.palma@arcadis.com.

eurofins | Environment Testing

ABN – 50 005 085 521
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Site # 23736

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: ADDITIONAL - 10035157
Project ID: 10035157

Order No.: 10035157 - task 1
Report #: 683645
Phone: 02 8907 9000
Fax:

Received: Oct 21, 2019 1:52 PM
Due: Oct 23, 2019
Priority: 2 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Moisture Set	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	MW02 – 2.0	Oct 08, 2019		Soil	S19-Oc30925	X	X
Test Counts						1	1

eurofins | Environment Testing

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Arcadis Australia
Lvl 16/580 George Street
Sydney
NSW 2000

Attention: **Jack Palma**

Report **683645-S**
Project name ADDITIONAL - 10035157
Project ID 10035157
Received Date Oct 21, 2019

Client Sample ID			**MW02 – 2.0**
Sample Matrix			**Soil**
Eurofins Sample No.			**S19-Oc30925**
Date Sampled			**Oct 08, 2019**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	93
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	2.6
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	2.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	2.6
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	0.6
Benz(a)anthracene	0.5	mg/kg	1.6
Benzo(a)pyrene	0.5	mg/kg	1.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	1.0
Benzo(g.h.i)perylene	0.5	mg/kg	0.9
Benzo(k)fluoranthene	0.5	mg/kg	1.4
Chrysene	0.5	mg/kg	1.3

Client Sample ID			MW02 – 2.0
Sample Matrix			Soil
Eurofins Sample No.			S19-Oc30925
Date Sampled			Oct 08, 2019
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Dibenz(a.h)anthracene	0.5	mg/kg	0.6
Fluoranthene	0.5	mg/kg	3.0
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.8
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	1.9
Pyrene	0.5	mg/kg	2.9
Total PAH*	0.5	mg/kg	17.5
2-Fluorobiphenyl (surr.)	1	%	84
p-Terphenyl-d14 (surr.)	1	%	98
Heavy Metals			
Arsenic	2	mg/kg	18
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	50
Copper	5	mg/kg	29
Lead	5	mg/kg	42
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	19
Zinc	5	mg/kg	55
% Moisture	1	%	16

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Oct 21, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Oct 21, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 21, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Oct 21, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Oct 21, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Oct 21, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Oct 21, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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Received: Oct 21, 2019 1:52 PM
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Priority: 2 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Moisture Set	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271							
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Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	MW02 – 2.0	Oct 08, 2019		Soil	S19-Oc30925	X	X
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****NOTE:** pH duplicates are reported as a range NOT as RPD

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ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	82			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C10-C14	%	122			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	92			70-130	Pass	
Toluene	%	86			70-130	Pass	
Ethylbenzene	%	85			70-130	Pass	
m&p-Xylenes	%	85			70-130	Pass	
o-Xylene	%	84			70-130	Pass	
Xylenes - Total	%	84			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	105			70-130	Pass	
TRH C6-C10	%	79			70-130	Pass	
TRH >C10-C16	%	117			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	85			70-130	Pass	
Acenaphthylene	%	85			70-130	Pass	
Anthracene	%	83			70-130	Pass	
Benz(a)anthracene	%	80			70-130	Pass	
Benzo(a)pyrene	%	80			70-130	Pass	
Benzo(b&j)fluoranthene	%	80			70-130	Pass	
Benzo(g.h.i)perylene	%	78			70-130	Pass	
Benzo(k)fluoranthene	%	100			70-130	Pass	
Chrysene	%	85			70-130	Pass	
Dibenz(a.h)anthracene	%	77			70-130	Pass	
Fluoranthene	%	82			70-130	Pass	
Fluorene	%	84			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	79			70-130	Pass	
Naphthalene	%	87			70-130	Pass	
Phenanthrene	%	83			70-130	Pass	
Pyrene	%	82			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	115			70-130	Pass	
Cadmium	%	114			70-130	Pass	
Chromium	%	111			70-130	Pass	
Copper	%	109			70-130	Pass	
Lead	%	114			70-130	Pass	
Mercury	%	109			70-130	Pass	
Nickel	%	108			70-130	Pass	
Zinc	%	108			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-Oc31890	NCP	%	76			70-130	Pass	
TRH C10-C14	S19-Oc29942	NCP	%	113			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-Oc31890	NCP	%	86			70-130	Pass	
Toluene	S19-Oc31890	NCP	%	82			70-130	Pass	
Ethylbenzene	S19-Oc31890	NCP	%	82			70-130	Pass	
m&p-Xylenes	S19-Oc31890	NCP	%	81			70-130	Pass	
o-Xylene	S19-Oc31890	NCP	%	81			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Xylenes - Total	S19-Oc31890	NCP	%	81			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-Oc31890	NCP	%	86			70-130	Pass	
TRH C6-C10	S19-Oc31890	NCP	%	74			70-130	Pass	
TRH >C10-C16	S19-Oc29942	NCP	%	111			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S19-Oc29923	NCP	%	92			70-130	Pass	
Acenaphthylene	S19-Oc29923	NCP	%	96			70-130	Pass	
Anthracene	S19-Oc29923	NCP	%	89			70-130	Pass	
Benz(a)anthracene	S19-Oc29923	NCP	%	92			70-130	Pass	
Benzo(a)pyrene	S19-Oc29923	NCP	%	107			70-130	Pass	
Benzo(b&j)fluoranthene	S19-Oc29923	NCP	%	88			70-130	Pass	
Benzo(g.h.i)perylene	S19-Oc29923	NCP	%	84			70-130	Pass	
Benzo(k)fluoranthene	S19-Oc29923	NCP	%	120			70-130	Pass	
Chrysene	S19-Oc29923	NCP	%	99			70-130	Pass	
Dibenz(a.h)anthracene	S19-Oc29923	NCP	%	85			70-130	Pass	
Fluoranthene	S19-Oc29923	NCP	%	104			70-130	Pass	
Fluorene	S19-Oc29923	NCP	%	87			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S19-Oc29923	NCP	%	88			70-130	Pass	
Naphthalene	S19-Oc29923	NCP	%	94			70-130	Pass	
Phenanthrene	S19-Oc29923	NCP	%	101			70-130	Pass	
Pyrene	S19-Oc29923	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-Oc30791	NCP	%	119			70-130	Pass	
Cadmium	S19-Oc30791	NCP	%	119			70-130	Pass	
Chromium	S19-Oc24381	NCP	%	102			70-130	Pass	
Copper	S19-Oc30791	NCP	%	113			70-130	Pass	
Lead	S19-Oc30791	NCP	%	111			70-130	Pass	
Mercury	S19-Oc30791	NCP	%	123			70-130	Pass	
Nickel	S19-Oc30791	NCP	%	116			70-130	Pass	
Zinc	S19-Oc30791	NCP	%	98			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-Oc23376	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S19-Oc29941	NCP	mg/kg	31	36	15	30%	Pass	
TRH C15-C28	S19-Oc29941	NCP	mg/kg	77	110	34	30%	Fail	Q15
TRH C29-C36	S19-Oc29941	NCP	mg/kg	110	120	11	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-Oc23376	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-Oc23376	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-Oc23376	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-Oc23376	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-Oc23376	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-Oc23376	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-Oc23376	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-Oc23376	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S19-Oc29941	NCP	mg/kg	< 50	< 50	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S19-Oc29941	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S19-Oc29941	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S19-Oc29941	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S19-Oc29941	NCP	mg/kg	1.1	1.4	22	30%	Pass	
Benzo(a)pyrene	S19-Oc29941	NCP	mg/kg	1.1	1.5	29	30%	Pass	
Benzo(b&j)fluoranthene	S19-Oc29941	NCP	mg/kg	0.8	1.0	27	30%	Pass	
Benzo(g.h.i)perylene	S19-Oc29941	NCP	mg/kg	0.7	1.0	32	30%	Fail	Q15
Benzo(k)fluoranthene	S19-Oc29941	NCP	mg/kg	0.9	1.1	28	30%	Pass	
Chrysene	S19-Oc29941	NCP	mg/kg	0.9	1.2	24	30%	Pass	
Dibenz(a.h)anthracene	S19-Oc29941	NCP	mg/kg	< 0.5	0.6	16	30%	Pass	
Fluoranthene	S19-Oc29941	NCP	mg/kg	2.0	2.4	17	30%	Pass	
Fluorene	S19-Oc29941	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-Oc29941	NCP	mg/kg	0.7	0.9	31	30%	Fail	Q15
Naphthalene	S19-Oc29941	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S19-Oc29941	NCP	mg/kg	1.2	1.2	4.0	30%	Pass	
Pyrene	S19-Oc29941	NCP	mg/kg	1.9	2.5	29	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-Oc30790	NCP	mg/kg	7.1	7.3	2.0	30%	Pass	
Cadmium	S19-Oc30790	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-Oc30790	NCP	mg/kg	32	29	11	30%	Pass	
Copper	S19-Oc30790	NCP	mg/kg	31	30	4.0	30%	Pass	
Lead	S19-Oc30790	NCP	mg/kg	81	91	11	30%	Pass	
Mercury	S19-Oc30790	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-Oc30790	NCP	mg/kg	22	20	8.0	30%	Pass	
Zinc	S19-Oc30790	NCP	mg/kg	71	80	12	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-Oc31595	NCP	%	15	15	2.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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CHAIN OF CUSTODY RECORD

☑ Sydney Laboratory — Unit F8 Bld F 16 Mars Road Lane Cove West NSW 2066 — 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory — Unit 1 21 Smallwood Place Moreme QLD 4172 — 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory — Unit 2 91 Leach Highway Kewdale WA 6105 — 08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory — 5 Monterey Road Dandenong South VIC 3175 — 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Australia Pacific
Address	Level 16, 580 George Street, Sydney, NSW
Contact Name	Jack Palma
Phone №	0408 988 954
Special Directions	Samples send without COC
Purchase Order	10035157 - task 1
Quote ID №	191002ARCN
Project №	10035157
Project №	
Project Manager	Jack Palma
EDD Format	Esdat + Equis
Sampler(s)	Tom Keatley / Michael Ashelford
Handed over by	Tom Keatley (by Courier)
Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Analyses: Where metals are requested please specify "Total" or "Filtered" SUITE code must be used to attract SUITE chrome

Containers: Change container type & size if necessary

Required Turnaround Time (TAT): Default will be 5 days if not tested

*Surcharge will apply
☐ Overnight (reporting by 9am)*
☐ Same day* ☐ 1 day*
☐ 2 days* ☐ 3 days*
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time	Matrix Solid (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	MW01_0.2	8/10/19	Soil	X	X	X											
2	MW01_0.5	8/10/19	Soil					X									
3	MW01_1	8/10/19	Soil					X									
4	MW01_2	8/10/19	Soil	X													
5	MW01_3	8/10/19	Soil					X									
6	MW01_4	8/10/19	Soil					X									
7	MW01_5	8/10/19	Soil					X									
8	MW01_6	8/10/19	Soil					X									
9	MW01_7	8/10/19	Soil					X									
10	MW01_8	8/10/19	Soil					X									
11	MW02_0.2	8/10/19	Soil	X	X	X											
12	MW02_0.5	8/10/19	Soil					X									
13	MW02_1	8/10/19	Soil	X													
14	MW02_2	8/10/19	Soil					X									
15	MW02_3	8/10/19	Soil					X									
16	MW02_4	8/10/19	Soil					X									
17	MW02_5	8/10/19	Soil					X									
18	MW02_6	8/10/19	Soil					X									
19	MW02_7	8/10/19	Soil					X									
20	MW02_10	9/10/19	Soil					X									
			Total Counts														

Environmental Division
Sydney
Work Order Reference
ES1933644

Telephone : + 61-2-8784 8555

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal | Name | Signature | Date | Time

Eurofins Environment Testing Australia Pty Ltd

Sp - ALS CN 15/10/19 1250pm

Rec: Fax: [signature] 15/10/19 3:30pm

12.3°C

CHAIN OF CUSTODY RECORD

☑ **Sydney Laboratory** Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Australia Pacific	Project №	10035157
Address	Level 16, 580 George Street, Sydney, NSW	Project №	
Contact Name	Jack Palma	Project Manager	Jack Palma
Phone №	0408 988 954	EDD Format (ESdat, EQuIS etc)	Esdat + Equis
Special Directions	Samples send without COC	Sampler(s)	Tom Keatley / Michael Ashelford
Purchase Order	10035157 - task 1	Handed over by	Tom Keatley (by Courier)
Quote ID №	191002ARCN	Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
		Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Analyses (Where matrix is specified analysis apply. Total or a "Hold" SUITE code must be used to activate SUITE pricing)

Containers (Change of container type & size if necessary)

Required Turnaround Time (TAT) (Default will be 5 days if not ticked)

*Surcharge will apply
☐ Overnight (reporting by 9am)*
☐ Same day* ☐ 1 day*
☐ 2 days* ☐ 3 days*
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix Solid(S) Water(W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	MW03_0.2	9/10/19	Soil	X	X	X											
2	MW03_0.5	9/10/19	Soil					X									
3	MW03_1.2	9/10/19	Soil	X													
4	MW03_2	9/10/19	Soil					X									
5	MW03_2.7	9/10/19	Soil					X									
6	MW03_4	9/10/19	Soil					X									
7	MW03_5	9/10/19	Soil					X									
8	MW03_6.5	9/10/19	Soil					X									
9	MW04_0.1	9/10/19	Soil					X									
10	MW04_0.2	9/10/19	Soil	X	X	X											
11	MW04_0.5	9/10/19	Soil					X									
12	MW04_1	9/10/19	Soil					X									
13	MW04_2	9/10/19	Soil	X													
14	MW04_3	9/10/19	Soil					X									
15	MW04_4	9/10/19	Soil					X									
16	MW04_5	9/10/19	Soil					X									
17	MW04_6	9/10/19	Soil					X									
18	MW04_7	9/10/19	Soil					X									
19	MW04_8	9/10/19	Soil					X									
20	MW05_0.2	9/10/19	Soil	X	X	X											
			Total Counts														

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal | Name | Signature | Date | Time

Eurofins Environmental Testing Australia Pty Ltd

CHAIN OF CUSTODY RECORD

☑ **Sydney Laboratory** Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 31 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Australia Pacific	Project №	10035157
Address	Level 16, 580 George Street, Sydney, NSW	Project №	
Contact Name	Jack Palma	Project Manager	Jack Palma
Phone №	0408 988 954	EDD Format (ESdat, EQUIS etc)	Esdat + Equis
Special Directions	Samples send without COC	Sampler(s)	Tom Keatley / Michael Ashelford
Purchase Order	10035157 - task 1	Handed over by	Tom Keatley (by Courier)
Quote ID №	191002ARCN	Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
		Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Analyses: When multiple analyses requested please simply "Tick" or "Tick and" SUITE codes refer to attached SUITE groups

Containers: Change container type & size if necessary

Required Turnaround Time (TAT): Default will be 5 days if not ticked

*Surcharge will apply
☐ Overnight (reporting by 9am)*
☐ Same day* ☐ 1 day*
☐ 2 days* ☐ 3 days*
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Soil (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA Vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	MW05_0.5	9/10/19	Soil					X									
2	MW05_1	9/10/19	Soil	X	X	X											
3	MW05_2	9/10/19	Soil					X									
4	MW05_3	9/10/19	Soil					X									
5	MW05_4	9/10/19	Soil					X									
6	MW05_5	9/10/19	Soil					X									
7	MW05_6	9/10/19	Soil					X									
8	MW05_7	9/10/19	Soil					X									
9	MW05_8	9/10/19	Soil					X									
10	MW05_10	9/10/19	Soil					X									
11	MW06_0.2	9/10/19	Soil	X	X	X											
12	MW06_0.5	9/10/19	Soil	X													
13	MW06_1	9/10/19	Soil					X									
14	MW06_2	8/10/19	Soil					X									
15	MW06_4	8/10/19	Soil					X									
16	QA001_TK	8/10/19	Soil	X	X												
17	QA002_TK	9/10/19	Soil	X	X												Please forward to ALS
18	QA003_TK	9/10/19	Soil					X									
19	QA004_TK	8/10/19	Soil					X									
20	QA1	8/10/19	Soil	X	X												
			Total Counts														

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal | Name | Signature | Date | Time

Eurofins Environment Testing Australia Pty Ltd

110 Modified by: Dr R Symons Approved by: G Jackson Approved on: 6 August 2019

CHAIN OF CUSTODY RECORD

☑ **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 8900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Australia Pacific	Project №	10035157
Address	Level 16, 580 George Street, Sydney, NSW	Project №	
Contact Name	Jack Palma	Project Manager	Jack Palma
Phone №	0408 988 954	EDD Format (Esdat, EQuIS etc)	Esdat + Equis
Special Directions	Samples send without COC	Sampler(s)	Tom Keatley / Michael Ashelford
Purchase Order	10035157 - task 1	Handed over by	Tom Keatley (by Courier)
Quote ID №	191002ARCN	Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
		Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Required Turnaround Time (TAT) — Default will be 5 days if not ticked

*Surcharge will apply

☐ Overnight (reporting by 9am)* ☐ Same day* ☐ 1 day* ☐ 2 days* ☐ 3 days* ☑ 5 days (Standard) ☐ Other( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix Soil(S) Water(W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA Vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	(2) QA2	8/10/19	Soil	X	X												Please forward to ALS
2	TP101_0.2	8/10/19	Soil	X	X												
3	TP101_0.5	8/10/19	Soil	X													
4	TP101_1	8/10/19	Soil					X									
5	TP101 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
6	TP102_0.2	8/10/19	Soil	X	X												
7	TP102_0.5	8/10/19	Soil	X													
8	TP102_1	8/10/19	Soil					X									
9	TP102 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
10	TP103_0.2	8/10/19	Soil	X	X												
11	TP103_0.5	8/10/19	Soil					X									
12	TP103_1	8/10/19	Soil	X													
13	TP103 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
14	TP104_0.2	8/10/19	Soil	X	X												
15	TP104_0.5	8/10/19	Soil					X									
16	TP104_1	8/10/19	Soil	X													
17	TP104_1.5	8/10/19	Soil					X									
18	TP104 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
19	TP105_0.2	8/10/19	Soil	X	X												
20	TP105_0.5	8/10/19	Soil					X									
			Total Counts														

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal

Name | Signature | Date | Time

Eurofins Environment Testing Australia Pty Ltd

CHAIN OF CUSTODY RECORD

☑ **Sydney Laboratory** Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Australia Pacific	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street, Sydney, NSW	Project №		EDD Format (esdat, EQUIS etc)	Esdat + Equis
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions	Samples send without COC				
Purchase Order	10035157 - task 1				
Quote ID №	191002ARCN				

Sampler(s)	Tom Keatley / Michael Ashelford
Handed over by	Tom Keatley (by Courier)
Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Required Turnaround Time (TAT) — Default will be 5 days if not picked

*Surcharge will apply

- ☐ Overnight (reporting by 9am)*
- ☐ Same day* ☐ 1 day*
- ☐ 2 days* ☐ 3 days*
- ☑ 5 days (Standard)
- ☐ Other( )

Analyses (Non-matrix as requested / please specify "Total" or "Filtered" and/or specify analytes to be filtered SUPE preferred)

Containers (Change container type & size if necessary)

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix Soil (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP105_1	8/10/19	Soil	X													
2	TP105 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
3	TP106_0.2	8/10/19	Soil	X	X												
4	TP106_0.5	8/10/19	Soil	X													
5	TP106_1	8/10/19	Soil					X									
6	TP106 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
7	TP107_0.2	8/10/19	Soil	X	X												
8	TP107_0.5	8/10/19	Soil	X													
9	TP107_1	8/10/19	Soil					X									
10	TP107 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
11	TP108_0.2	8/10/19	Soil	X	X												
12	TP108_0.5	8/10/19	Soil	X													
13	TP108_1	8/10/19	Soil					X									
14	TP108 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
15	TP109_0.2	8/10/19	Soil	X	X												
16	TP109_0.5	8/10/19	Soil	X													
17	TP109_1	8/10/19	Soil					X									
18	TP109 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
19	TP110_0.5	8/10/19	Soil					X									
20	TP110_1	8/10/19	Soil	X													
			Total Counts														

Method of Shipment	☐ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Signature	Date	Time

CHAIN OF CUSTODY RECORD

☑ **Sydney Laboratory** Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Australia Pacific	Project №	10035157
Address	Level 16, 580 George Street, Sydney, NSW	Project №	
Contact Name	Jack Palma	Project Manager	Jack Palma
Phone №	0408 988 954	EDD Format (Esdat, EQUIS etc)	Esdat + Equis
Special Directions	Samples send without COC	Sampler(s)	Tom Keatley / Michael Ashelford
Purchase Order	10035157 - task 1	Handed over by	Tom Keatley (by Courier)
Quote ID №	191002ARCN	Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
		Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Analyses: Where matrix is specified, please specify "Trial" or "Reserve". Suite Lookup must be entered after SDG is known

Containers: Change container type & size if necessary

Required Turnaround Time (TAT): Delays will be 5 days if not ticked

☐ Overnight (reporting by 9am)♦ ☐ Same day♦ ☐ 1 day♦ ☐ 2 days♦ ☐ 3 days♦ ☑ 5 days (Standard) ☐ Other( )

♦Surcharge will apply

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix Soil (S) Water (W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP110_2	8/10/19	Soil					X									
2	TP110 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
3	TP111_0.2	8/10/19	Soil	X	X												
4	TP111_0.5	8/10/19	Soil	X													
5	TP111_1	8/10/19	Soil					X									
6	TP111 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
7	TP112_0.2	8/10/19	Soil	X	X												
8	TP112_0.5	8/10/19	Soil	X													
9	TP112_1	8/10/19	Soil					X									
10	TP112 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
11	TP113_0.2	8/10/19	Soil	X	X												
12	TP113_0.5	8/10/19	Soil					X									
13	TP113_1	8/10/19	Soil	X													
14	TP113_2	8/10/19	Soil					X									
15	TP113 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
16	TP114_0.2	8/10/19	Soil	X	X												
17	TP114_0.5	8/10/19	Soil					X									
18	TP114_1	8/10/19	Soil					X									
19	TP114_2	8/10/19	Soil	X													
20	TP114 - Asb_0.1	8/10/19	Soil_WA				X										Field sieved sample
			Total Counts														

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal

Name	Signature	Date	Time

Eurofins Environment Testing Australia Pty Ltd

R10 Issued by: Dr R Symons Approved by: G. Jackson Approved on: 8 August 2019

CHAIN OF CUSTODY RECORD

☑ Sydney Laboratory
Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Australia Pacific	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street, Sydney, NSW	Project №		EDD Format (ESdat, EQuIS etc)	Esdat + Equis
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions	Samples send without COC				
Purchase Order	10035157 - task 1				
Quote ID №	191002ARCN				

Sampler(s)	Tom Keatley / Michael Ashelford
Handed over by	Tom Keatley (by Courier)
Email for Invoice	jack.palma@arcadis.com; au.accounts.payable@arcadis.com
Email for Results	jack.palma@arcadis.com; tom.keatley@arcadis.com

Analyses: Where metals are requested please specify "Total" or "Filtered" SWIFE code must be used to select SWIFE group

Containers: Change container type & size if necessary

Required Turnaround Time (TAT): Default will be 5 days if not ticked

*Surcharge will apply
☐ Overnight (reporting by 9am)*
☐ Same day* ☐ 1 day*
☐ 2 days* ☐ 3 days*
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time (dd/mm/yy hh:mm)	Matrix Soil(S) Water(W)	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP/OPPs, PCBs	Asbestos ID - AS4964	Asbestos ID - NEPM & WA Guidelines	Rinsate - 8 Heavy Metals	Trip Blank/Trip Spike - TRH (C6-C10 & BTEX)	Hold	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Other (Asbestos AS4964, WA Guidelines)	Sample Comments / Dangerous Goods Hazard Warning
1	TP114 - Asb_0.5	8/10/19	Soil_WA				X												Field sieved sample
2	TP115_0.2	8/10/19	Soil	X	X														
3	TP115_0.5	8/10/19	Soil							X									
4	TP115_1	8/10/19	Soil	X															
5	TP115 - Asb_0.1	8/10/19	Soil_WA				X												Field sieved sample
6	Trip Blank	0/01/00	Soil						X										
7	Trip Spike	0/01/00	Soil						X										
8	Field Water	8/10/19	Water					X											
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
	Total Counts																		

Method of Shipment: ☐ Courier (#) ☐ Hand Delivered ☐ Postal

Name | Signature | Date | Time

Eurofins Environment Testing Australia Pty Ltd

ALS Environmental

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order : **ES1933644**

Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: JACK PALMA	Contact	: Loren Schiavon
Address	: LEVEL 5, 141 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2065	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
E-mail	: jack.palma@arcadis.com	E-mail	: Loren.Schiavon@ALSGlobal.com
Telephone	: +61 02 8907 9000	Telephone	: +61 2 8784 8555
Facsimile	: +61 02 8907 9001	Facsimile	: +61-2-8784 8500
Project	: 10035157	Page	: 1 of 2
Order number	: ----	Quote number	: EM2017HYDCON0003 (EN/333 - Secondary Work)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: ----		
Sampler	: MICHAEL ASHELFORD, TOM KEATLEY		

Dates

Date Samples Received	: 15-Oct-2019 12:50	Issue Date	: 17-Oct-2019
Client Requested Due Date	: 22-Oct-2019	Scheduled Reporting Date	: **22-Oct-2019**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Not Available
No. of coolers/boxes	: 1	Temperature	: 12.3'C - Ice Bricks present
Receipt Detail	:	No. of samples received / analysed	: 2 / 2

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- This is an updated SRN which indicates the addition of sample QA2.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- **Sample(s) requiring volatile organic compound analysis received in airtight containers (ZHE).**
- Please direct any queries you have regarding this work order to the above ALS laboratory contact.
- Analytical work for this work order will be conducted at ALS Sydney.
- Sample Disposal - Aqueous (3 weeks), Solid (2 months ± 1 week) from receipt of samples.
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **SOIL**

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EA055-103 Moisture Content	SOIL - S-16 TRH/BTEXN/PAH/OC/OP/PCB/8Metals
ES1933644-001	09-Oct-2019 00:00	QA002_TK	✓	✓
ES1933644-002	09-Oct-2019 00:00	QA2	✓	✓

Proactive Holding Time Report

Sample(s) have been received within the recommended holding times for the requested analysis.

Requested Deliverables

Arcadis Account Payable

- A4 - AU Tax Invoice (INV)	Email	AU.Accounts.Payable@arcadis.com

JACK PALMA

- *AU Certificate of Analysis - NATA (COA)	Email	jack.palma@arcadis.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jack.palma@arcadis.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jack.palma@arcadis.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jack.palma@arcadis.com
- A4 - AU Tax Invoice (INV)	Email	jack.palma@arcadis.com
- Chain of Custody (CoC) (COC)	Email	jack.palma@arcadis.com
- EDI Format - ENMRG (ENMRG)	Email	jack.palma@arcadis.com
- EDI Format - ESDAT (ESDAT)	Email	jack.palma@arcadis.com

TOM KEATLEY

- *AU Certificate of Analysis - NATA (COA)	Email	tom.keatley@arcadis.com
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	tom.keatley@arcadis.com
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	tom.keatley@arcadis.com
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	tom.keatley@arcadis.com
- Chain of Custody (CoC) (COC)	Email	tom.keatley@arcadis.com
- EDI Format - ENMRG (ENMRG)	Email	tom.keatley@arcadis.com
- EDI Format - ESDAT (ESDAT)	Email	tom.keatley@arcadis.com

CERTIFICATE OF ANALYSIS

Work Order	: **ES1933644**	Page	: 1 of 7
Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: JACK PALMA	Contact	: Loren Schiavon
Address	: LEVEL 5, 141 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2065	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 8907 9000	Telephone	: +61 2 8784 8555
Project	: 10035157	Date Samples Received	: 15-Oct-2019 12:50
Order number	: ----	Date Analysis Commenced	: 17-Oct-2019
C-O-C number	: ----	Issue Date	: 22-Oct-2019 12:58
Sampler	: MICHAEL ASHELFORD, TOM KEATLEY		
Site	: ----		
Quote number	: EN/333 - Secondary Work		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EG020: It has been confirmed by re-digestion and re-analysis that total Aluminium and Manganese concentration is less than dissolved for sample ES1933767-#004.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA002_TK	QA2	----	----	----
			Client sampling date / time	09-Oct-2019 00:00	09-Oct-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1933644-001	ES1933644-002	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**16.5**	**10.2**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**10**	<5	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	**33**	**29**	----	----	----
Copper	7440-50-8	5	mg/kg	**22**	**35**	----	----	----
Lead	7439-92-1	5	mg/kg	**29**	**13**	----	----	----
Nickel	7440-02-0	2	mg/kg	**14**	**20**	----	----	----
Zinc	7440-66-6	5	mg/kg	**35**	**62**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA002_TK	QA2	----	----	----
			Client sampling date / time	09-Oct-2019 00:00	09-Oct-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1933644-001	ES1933644-002	--------	--------	--------
				Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	<0.05	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA002_TK	QA2	----	----	----
			Client sampling date / time	09-Oct-2019 00:00	09-Oct-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1933644-001	ES1933644-002	--------	--------	--------
				Result	Result	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons - Continued								
Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	**0.6**	**0.6**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	**1.2**	**1.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg	<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg	<100	**140**	----	----	----
C29 - C36 Fraction	----	100	mg/kg	<100	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	<50	**140**	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	<100	**160**	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	<50	**160**	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	<50	<50	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA002_TK	QA2	----	----	----
			Client sampling date / time	09-Oct-2019 00:00	09-Oct-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1933644-001	ES1933644-002	--------	--------	--------
				Result	Result	----	----	----
EP080: BTEXN - Continued								
^ Sum of BTEX	----	0.2	mg/kg	<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg	<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg	<1	<1	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	90.0	84.2	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	109	102	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	78.1	106	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	70.6	66.7	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	80.5	82.9	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	52.7	77.6	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	78.4	84.7	----	----	----
Anthracene-d10	1719-06-8	0.5	%	87.2	87.7	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	99.7	82.3	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	105	103	----	----	----
Toluene-D8	2037-26-5	0.2	%	87.2	95.6	----	----	----
4-Bromofluorobenzene	460-00-4	0.2	%	88.8	94.1	----	----	----

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

QUALITY CONTROL REPORT

Work Order	: **ES1933644**	Page	: 1 of 10
Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: JACK PALMA	Contact	: Loren Schiavon
Address	: LEVEL 5, 141 MILLER STREET NORTH SYDNEY NSW, AUSTRALIA 2065	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 8907 9000	Telephone	: +61 2 8784 8555
Project	: 10035157	Date Samples Received	: 15-Oct-2019
Order number	: ----	Date Analysis Commenced	: 17-Oct-2019
C-O-C number	: ----	Issue Date	: 22-Oct-2019
Sampler	: MICHAEL ASHELFORD, TOM KEATLEY		
Site	: ----		
Quote number	: EN/333 - Secondary Work		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2648742)									
ES1933260-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	9	9	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	60	62	3.01	0% - 20%
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	104	118	12.3	0% - 20%
		EG005T: Lead	7439-92-1	5	mg/kg	6	<5	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	37	39	5.86	No Limit
ES1933468-011	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	21	14.7	0% - 50%
		EG005T: Nickel	7440-02-0	2	mg/kg	8	8	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	72	90	22.0	0% - 50%
		EG005T: Copper	7440-50-8	5	mg/kg	22	50	78.1	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	130	129	1.02	0% - 20%
		EG005T: Zinc	7440-66-6	5	mg/kg	266	269	1.23	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2648745)									
ES1933260-004	Anonymous	EA055: Moisture Content	----	0.1	%	18.3	18.0	1.98	0% - 50%
ES1933468-020	Anonymous	EA055: Moisture Content	----	0.1	%	9.6	9.9	2.84	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2648741)									
ES1933260-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1933468-011	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 2647558)									
ES1933644-001	QA002_TK	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2647557)									
ES1933644-001	QA002_TK	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2647557) - continued									
ES1933644-001	QA002_TK	EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2647557)									
ES1933644-001	QA002_TK	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2647556)									
ES1933644-001	QA002_TK	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2646340)									
ES1933113-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1933696-002	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2647473)									
ES1933644-002	QA2	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES1933887-006	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2647555)									
ES1933644-001	QA002_TK	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2646340)									
ES1933113-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1933696-002	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2647473)									
ES1933644-002	QA2	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1933887-006	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2647555)									
ES1933644-001	QA002_TK	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2647555) - continued									
ES1933644-001	QA002_TK	EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 2646340)									
ES1933113-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES1933696-002	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
EP080: BTEXN (QC Lot: 2647473)									
ES1933644-002	QA2	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES1933887-006	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2648742)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	90.0	86.0	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	94.1	83.0	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	114	76.0	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	94.6	86.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	101	80.0	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	106	87.0	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	100	80.0	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2648741)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	76.8	70.0	105
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2647558)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	96.0	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 2647557)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	104	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	106	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	102	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	107	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	99.2	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	97.7	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	93.1	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	89.5	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	92.1	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.1	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	85.0	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	99.8	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	90.5	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.1	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	81.8	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	104	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	104	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	99.4	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2647557)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2647557) - continued								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	79.7	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	84.3	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	83.0	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.3	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	88.4	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	84.9	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	90.3	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	87.2	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	86.9	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	84.0	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	86.9	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.0	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	88.1	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.6	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	88.6	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.8	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	101	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	41.0	123
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2647556)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	113	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	116	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	108	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	112	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	110	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	110	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	119	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	125	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	103	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	102	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	90.2	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	93.8	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	112	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	107	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	105	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	107	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2646340)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	83.6	68.4	128

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2647473)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	82.4	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2647555)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	87.6	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	91.6	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	89.9	71.0	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2646340)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	84.6	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2647473)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	114	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2647555)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	89.4	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	90.7	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	93.5	63.0	131
EP080: BTEXN (QCLot: 2646340)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	82.8	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	82.8	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	83.8	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	84.8	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	87.6	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	92.1	63.0	119
EP080: BTEXN (QCLot: 2647473)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	80.1	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	89.7	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	81.3	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	85.3	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	81.2	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	83.8	63.0	119

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%) MS	Recovery Limits (%) Low	Recovery Limits (%) High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2648742)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2648742) - continued							
ES1933260-001	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	82.7	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	89.8	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	99.9	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	100	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	88.3	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	105	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	87.8	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2648741)							
ES1933260-001	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	87.1	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2647558)							
ES1933644-001	QA002_TK	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	100.0	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2647557)							
ES1933644-001	QA002_TK	EP068: gamma-BHC	58-89-9	0.5 mg/kg	99.0	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	103	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	108	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	92.8	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	92.4	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	85.2	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2647557)							
ES1933644-001	QA002_TK	EP068: Diazinon	333-41-5	0.5 mg/kg	80.2	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	83.9	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	81.4	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	81.2	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	74.8	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2647556)							
ES1933644-001	QA002_TK	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	92.3	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	108	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2646340)							
ES1933113-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	80.6	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2647473)							
ES1933644-002	QA2	EP080: C6 - C9 Fraction	----	32.5 mg/kg	92.8	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2647555)							
ES1933644-001	QA002_TK	EP071: C10 - C14 Fraction	----	523 mg/kg	101	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	128	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	93.5	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2646340)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2646340) - continued							
ES1933113-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	79.9	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2647473)							
ES1933644-002	QA2	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	113	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2647555)							
ES1933644-001	QA002_TK	EP071: >C10 - C16 Fraction	----	860 mg/kg	110	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	92.9	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	78.5	52.0	132
EP080: BTEXN (QCLot: 2646340)							
ES1933113-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	70.2	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	76.8	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	79.2	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	79.6	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	82.4	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	85.2	70.0	130
EP080: BTEXN (QCLot: 2647473)							
ES1933644-002	QA2	EP080: Benzene	71-43-2	2.5 mg/kg	74.2	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	87.9	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	81.7	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	83.8	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	76.8	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	79.2	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1933644**	Page	: 1 of 5
Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: JACK PALMA	Telephone	: +61 2 8784 8555
Project	: 10035157	Date Samples Received	: 15-Oct-2019
Site	: ----	Issue Date	: 22-Oct-2019
Sampler	: MICHAEL ASHELFORD, TOM KEATLEY	No. of samples received	: 2
Order number	: ----	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container / Client Sample ID(s)*		*Sample Date*	*Extraction / Preparation*			*Analysis*		
			Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
QA002_TK,	QA2	**09-Oct-2019**	**----**	----	----	**17-Oct-2019**	23-Oct-2019	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	06-Apr-2020	✓	**18-Oct-2019**	06-Apr-2020	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	06-Nov-2019	✓	**21-Oct-2019**	06-Nov-2019	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	23-Oct-2019	✓	**20-Oct-2019**	26-Nov-2019	✓
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	23-Oct-2019	✓	**21-Oct-2019**	26-Nov-2019	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	23-Oct-2019	✓	**21-Oct-2019**	26-Nov-2019	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	23-Oct-2019	✓	**18-Oct-2019**	26-Nov-2019	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP071)								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	23-Oct-2019	✓	**18-Oct-2019**	26-Nov-2019	✓
Soil Glass Jar - Unpreserved (EP080)								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	23-Oct-2019	✓	**21-Oct-2019**	23-Oct-2019	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP071)								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	23-Oct-2019	✓	**18-Oct-2019**	26-Nov-2019	✓
Soil Glass Jar - Unpreserved (EP080)								
QA002_TK,	QA2	**09-Oct-2019**	**17-Oct-2019**	23-Oct-2019	✓	**21-Oct-2019**	23-Oct-2019	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080)							
QA002_TK, QA2	**09-Oct-2019**	**17-Oct-2019**	23-Oct-2019	✓	**21-Oct-2019**	23-Oct-2019	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	1	2	50.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	50.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	4	35	11.43	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	35	5.71	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	35	5.71	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	3	33.33	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	2	50.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	35	5.71	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 7.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☑ Sydney Laboratory
Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066
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☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format (ESdat, EQuIS etc)	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Analyses: Where metals are requested, please specify "Total" or "Filtered" SUITE code must be used to attract SUITE pricing

Containers: Change container type & size if necessary

Required Turnaround Time (TAT): Default will be 5 days if not ticked

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day ◆ ☐ 1 day ◆
☐ 2 days ◆ ☐ 3 days ◆
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	DS01		S	X											1		Sediment sample
2	DS02		S	X											1		Sediment sample
3	DS03		S	X											1		Sediment sample
4	DS04		S	X											1		Sediment sample
5	DS05		S	X											1		Sediment sample
6	MW01		W	X												2	
7	MW02		W	X												2	
8	MW03		W	X												1	
9	MW04		W	X												2	
10	MW05		W	X												2	
		Total Counts		10											5	9	

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal | Name: Jack Palma | Signature | Date | Time

*Eurofins | mgt Laboratory Use Only											
	Received By	Lina D	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	29/11/19	Time	4:00 pm	Temperature	16.2°C
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	690964

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CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☑ Sydney Laboratory
Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066
02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format ESdat, EQuIS etc	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Analyses: Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing

Containers: Change container type & size if necessary

Required Turnaround Time (TAT): Default will be 5 days if not ticked.

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day ♦ ☐ 1 day ♦
☐ 2 days ♦ ☐ 3 days ♦
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	B1 - TRH, BETXN	8 Metals	Copper, Zinc	Copper	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	MW06		W	X																2	
2	HA15B - 0.05		S	X															1		
3	HA15B - 0.1		S	X															1		
4	HA15B - 0.6		S	X															1		
5	HA15B - 0.7		S	X															1		
6	HA15B - 0.8		S	X															1		
7	HA15C - 0.05		S	X															1		
8	HA15C - 0.2		S	X															1		
9	HA01B - 0.05		S	X															1		
10	HA01B - 0.2		S	X															1		
	Total Counts			10															9	2	

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name	Jack Palma	Signature		Date		Time			
Eurofins | mgt Laboratory Use Only	Received By	Ciara D	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature	[signature]	Date	29/11/19	Time	4:00 pm	Temperature	16.2°C
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	690964

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CHAIN OF CUSTODY RECORD

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☑ Sydney Laboratory — Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 — 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ Brisbane Laboratory — Unit 1 21 Smallwood Place Murarrie QLD 4172 — 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory — Unit 2 91 Leach Highway Kewdale WA 6105 — 08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory — 6 Monterey Road Dandenong South VIC 3175 — 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format (ESdat, EQuIS etc)	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to ensure SUITE pricing

Containers — Change container type & size if necessary

Required Turnaround Time (TAT) — Default will be 5 days if not ticked

♦Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day ◆ ☐ 1 day ◆
☐ 2 days ◆ ☐ 3 days ◆
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	B1 - TRH, BETXN	8 Metals	Creosote	Zinc	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	HA06B - 0.05		S	X															1		
2	HA06B - 0.2		S	X															1		
3	HA18B - 0.05		S	X															1		
4	HA18B - 0.2		S	X															1		
5	SO01		S	X															1		
6	SO02		S	X															1		
7	SO03		S	X															1		
8	SO04		S	X															1		
9	SO05		S	X															1		
10	QA3		S	X															1		
		Total Counts		10															10		

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal — Name: Jack Palma — Signature — Date — Time

Eurofins | mgt Laboratory Use Only											
Received By	Lena D	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	29/4/19	Time	4:00 pm	Temperature	16.2 C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	690964

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☐ Brisbane Laboratory
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07 3902 4600 EnviroSampleQLD@eurofins.com

☐ Perth Laboratory
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ Melbourne Laboratory
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format (ESdat, EQuIS etc)	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Required Turnaround Time (TAT) — Default will be 5 days if not ticked

♦Surcharge will apply

- ☐ Overnight (reporting by 9am)♦
- ☐ Same day ◆ ☐ 1 day ◆
- ☐ 2 days ◆ ☐ 3 days ◆
- ☑ 5 days (Standard)
- ☐ Other( )

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing

Containers — Change container type & size if necessary

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	B1 - TRH, BETXN	8 Metals	Creosote	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	QA4		S	X														1		Please forward to ALS
2	QA3		W	X															2	
3	QA4		W	X															2	Please forward to ALS
4	Trip blank		W	X													2			
5	Trip spike		W	X													2			
6	Trip blank		S	X													1			
7																				
8																				
9																				
10																				
			Total Counts	6													5	1	4	

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name: Jack Palma | Signature | Date | Time

Eurofins | mgt Laboratory Use Only									
Received By	Lucia D	SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	29/11/19	Time	1100 am	Temperature 16.2°C
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report № 690964

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CHAIN OF CUSTODY RECORD

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☐ **Brisbane Laboratory**
Unit 1 21 Smallwood Place Murarrie QLD 4172
07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory**
Unit 2 91 Leach Highway Kewdale WA 6105
08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory**
6 Monterey Road Dandenong South VIC 3175
03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format ESdat, EQuIS etc	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Analyses Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

Containers Change container type & size if necessary.

Required Turnaround Time (TAT) Default will be 5 days if not ticked.

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	DS01	27/11/19	S		X	X	X								1		Sediment sample
2	DS02	27/11/19	S		X	X	X								1		Sediment sample
3	DS03	28/11/19	S		X	X	X								1		Sediment sample
4	DS04	28/11/19	S		X	X	X								1		Sediment sample
5	DS05	28/11/19	S		X	X	X								1		Sediment sample
6	MW01	27/11/19	W					X								2	
7	MW02	27/11/19	W					X								2	
8	MW03	28/11/19	W					X								1	
9	MW04	28/11/19	W					X								2	
10	MW05	27/11/19	W					X								2	
	Total Counts				4	5	5	5							5	9	

Method of Shipment ☑ Courier (#) ☐ Hand Delivered ☐ Postal Name Jack Palma Signature Date Time

Eurofins | mgt Laboratory Use Only								
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	

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CHAIN OF CUSTODY RECORD

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☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format (ESdat, EQuIS etc)	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Required Turnaround Time (TAT) — Default will be 5 days if not ticked. ♦Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other( )

Analyses — Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	B1 - TRH, BETXN	M8 - Heavy Metals	Copper, Zinc	Zinc	500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	MW06	28/11/19	W					X												2	
2	HA15B - 0.05	27/11/19	S						X										1		
3	HA15B - 0.1	27/11/19	S						X										1		
4	HA15B - 0.6	27/11/19	S						X										1		
5	HA15B - 0.7	27/11/19	S		X														1		
6	HA15B - 0.8	27/11/19	S						X										1		
7	HA15C - 0.05	28/11/19	S						X										1		
8	HA15C - 0.2	28/11/19	S						X										1		
9	HA01B - 0.05	28/11/19	S								X								1		
10	HA01B - 0.2	28/11/19	S								X								1		
			Total Counts		1				1	6		2							9	2	

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Jack Palma	Signature	Date	Time

Eurofins | mgt Laboratory Use Only							
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Temperature
Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Report №

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CHAIN OF CUSTODY RECORD

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☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format (ESdat, EQuIS etc)	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

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Containers — Change container type & size if necessary.

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- ☐ Overnight (reporting by 9am)♦
- ☐ Same day♦ ☐ 1 day♦
- ☐ 2 days♦ ☐ 3 days♦
- ☑ 5 days (Standard)
- ☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	B1 - TRH, BETXN	M8 - Heavy Metals	Creosote	Zinc						500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	HA06B - 0.05	28/11/19	S									X												1		
2	HA06B - 0.2	28/11/19	S									X												1		
3	HA18B - 0.05	27/11/19	S									X												1		
4	HA18B - 0.2	27/11/19	S									X												1		
5	SO01	27/11/19	S								X													1		
6	SO02	28/11/19	S								X													1		
7	SO03	28/11/19	S								X													1		
8	SO04	28/11/19	S								X													1		
9	SO05	27/11/19	S								X													1		
10	QA3	27/11/19	S								X													1		
		Total Counts									6	4												10		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Jack Palma	Signature	Date	Time

Eurofins | mgt Laboratory Use Only								
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Temperature
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Report №

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CHAIN OF CUSTODY RECORD

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☑ **Sydney Laboratory** Unit F3 Bld F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format (ESdat, EQuIS etc)	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Required Turnaround Time (TAT) — Default will be 5 days if not ticked. ♦Surcharge will apply

☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other( )

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Containers — Change container type & size if necessary.

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	B1 - TRH, BETXN	M8 - Heavy Metals	Creosote	B5 - TRH, BTEXN, 8 Metals	500mL Plastic	250mL Plastic	125mL Plastic	100mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	QA4	27/11/19	S								X								1		Please forward to ALS
2	QA3	27/11/19	W					X												2	
3	QA4	27/11/19	W					X												2	Please forward to ALS
4	Trip blank	-	W						X								2				
5	Trip spike	-	W						X								2				
6	Trip blank	-	S						X								1				
7	Rinsate	27/11/19	W									X			1	1	2				
8	Rinsate	28/11/19	W									X			1	1	2				
9	HA15B - 0.4	27/11/19	S		X														1		
10	QA5	27/11/19	S			X	X	X											1		Sediment sample
			Total Counts		1	1	1	1	2	3		1	2		2	2	9		3	4	

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Jack Palma	Signature	Date	Time

Eurofins | mgt Laboratory Use Only								
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Temperature
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date	Time	Report №

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☑ **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format (ESdat, EQuIS etc)	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Analyses: Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

Containers: Change container type & size if necessary.

Required Turnaround Time (TAT): Default will be 5 days if not ticked

♦Surcharge will apply
☐ Overnight (reporting by 9am)♦
☐ Same day♦ ☐ 1 day♦
☐ 2 days♦ ☐ 3 days♦
☑ 5 days (Standard)
☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	B1 - TRH, BETXN	M8 - Heavy Metals	Creosote	B5 - TRH, BTEXN, 8 Metals						500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	QA6	27/11/19	S			X	X	X																1		Please forward to ALS. Sediment sample
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
			Total Counts				1	1																1		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Jack Palma	Signature		Date	Time

Eurofins | mgt Laboratory Use Only	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Temperature	
	Received By		SYD | BNE | MEL | PER | ADL | NTL | DRW	Signature		Date		Time		Report №	

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

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Melbourne
6 Monterey Road
Dandenong South Vic 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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NATA # 1261 Site # 20794

Perth
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Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Arcadis Australia**
Contact name:	Jack Palma
Project name:	10035157
Project ID:	10035157
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Nov 29, 2019 4:00 PM
Eurofins reference:	**690964**

Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☑ All samples have been received as described on the above COC.
- ☑ COC has been completed correctly.
- ☑ Attempt to chill was evident.
- ☑ Appropriately preserved sample containers have been used.
- ☑ All samples were received in good condition.
- ☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ☑ Appropriate sample containers have been used.
- ☑ Sample containers for volatile analysis received with zero headspace.
- ☑ Split sample sent to requested external lab.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Samples QA4 (soil), QA6 (soil) and QA4 (water) forwarded to ALS

Contact notes

If you have any questions with respect to these samples please contact:

Ursula Long on Phone : or by e.mail: UrsulaLong@eurofins.com

Results will be delivered electronically via e.mail to Jack Palma - jack.palma@arcadis.com.

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IANZ # 1290

Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
Sydney
NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - TASK 1
Report #: 690964
Phone: 02 8907 9000
Fax:

Received: Nov 29, 2019 4:00 PM
Due: Dec 6, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
External Laboratory																	
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
1	DS01	Nov 27, 2019		Soil	S19-No42336			X				X	X		X		
2	DS02	Nov 27, 2019		Soil	S19-No42337			X				X	X		X		
3	DS03	Nov 27, 2019		Soil	S19-No42338			X				X	X		X		
4	DS04	Nov 27, 2019		Soil	S19-No42339			X				X	X		X		
5	DS05	Nov 27, 2019		Soil	S19-No42340			X				X	X		X		
6	MW01	Nov 27, 2019		Water	S19-No42341									X			
7	MW02	Nov 27, 2019		Water	S19-No42342									X			
8	MW03	Nov 27, 2019		Water	S19-No42343									X			
9	MW04	Nov 27, 2019		Water	S19-No42344									X			
10	MW05	Nov 27, 2019		Water	S19-No42345									X			

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Project ID: 10035157

Order No.: 10035157 - TASK 1
Report #: 690964
Phone: 02 8907 9000
Fax:

Received: Nov 29, 2019 4:00 PM
Due: Dec 6, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
11	MW06	Nov 27, 2019		Water	S19-No42346									X			
12	HA15B-0.05	Nov 27, 2019		Soil	S19-No42347								X			X	
13	HA15B-0.15	Nov 27, 2019		Soil	S19-No42348								X			X	
14	HA15B-0.4	Nov 27, 2019		Soil	S19-No42349		X										
15	HA15B-0.6	Nov 27, 2019		Soil	S19-No42350								X			X	
16	HA15B-0.7	Nov 27, 2019		Soil	S19-No42351		X										
17	HA15B-0.8	Nov 27, 2019		Soil	S19-No42352								X			X	
18	HA15C-0.05	Nov 27, 2019		Soil	S19-No42353								X			X	
19	HA15C-0.2	Nov 27, 2019		Soil	S19-No42354								X			X	
20	HA01B-0.05	Nov 27, 2019		Soil	S19-No42355	X			X				X				
21	HA01B-0.2	Nov 27, 2019		Soil	S19-No42356	X			X				X				
22	HA06B-0.05	Nov 27, 2019		Soil	S19-No42357				X				X				
23	HA06B-0.2	Nov 27, 2019		Soil	S19-No42358				X				X				

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Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - TASK 1
Report #: 690964
Phone: 02 8907 9000
Fax:

Received: Nov 29, 2019 4:00 PM
Due: Dec 6, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
24	HA18B-0.05	Nov 27, 2019		Soil	S19-No42359				X				X				
25	HA18B-0.2	Nov 27, 2019		Soil	S19-No42360				X				X				
26	SO01	Nov 27, 2019		Soil	S19-No42361						X		X				
27	SO02	Nov 27, 2019		Soil	S19-No42362						X		X				
28	SO03	Nov 27, 2019		Soil	S19-No42363						X		X				
29	SO04	Nov 27, 2019		Soil	S19-No42364						X		X				
30	SO05	Nov 27, 2019		Soil	S19-No42365						X		X				
31	QA3	Nov 27, 2019		Soil	S19-No42366						X		X				
32	QA5	Nov 27, 2019		Soil	S19-No42367			X				X	X		X		
33	QA3 WATER	Nov 27, 2019		Water	S19-No42369									X			
34	TRIP BLANK	Nov 27, 2019		Water	S19-No42370												X
35	TRIP SPIKE	Nov 27, 2019		Water	S19-No42371												X
36	TRIP BLANK	Nov 27, 2019		Soil	S19-No42372												X

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Report #: 690964
Phone: 02 8907 9000
Fax:

Received: Nov 29, 2019 4:00 PM
Due: Dec 6, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
	SOIL																
37	RINSATE 27/11	Nov 27, 2019		Water	S19-No42395					X						X	
38	RINSATE 28/11	Nov 28, 2019		Water	S19-No42396					X						X	
Test Counts						2	2	6	6	2	6	6	24	7	6	8	3

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Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Arcadis Australia
Lvl 16/580 George Street
Sydney
NSW 2000

Attention: **Jack Palma**

Report **690964-S**
Project name 10035157
Project ID 10035157
Received Date Nov 29, 2019

Client Sample ID			**DS01**	**DS02**	**DS03**	**DS04**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S19-No42336**	**S19-No42337**	**S19-No42338**	**S19-No42339**
Date Sampled			**Nov 27, 2019**	**Nov 27, 2019**	**Nov 27, 2019**	**Nov 27, 2019**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	58	63	52	84
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			DS01	DS02	DS03	DS04
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42336	S19-No42337	S19-No42338	S19-No42339
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	109	114	107	112
p-Terphenyl-d14 (surr.)	1	%	INT	INT	143	INT
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	126	103	113	126
Tetrachloro-m-xylene (surr.)	1	%	123	99	111	118
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			DS01	DS02	DS03	DS04
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42336	S19-No42337	S19-No42338	S19-No42339
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 1	< 1	< 1	< 1
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	90	90	95	91
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	126	103	113	126
Tetrachloro-m-xylene (surr.)	1	%	123	99	111	118
Total Organic Carbon	0.1	%	0.8	0.7	0.8	0.5
% Moisture	1	%	25	28	27	25
Heavy Metals						
Arsenic	2	mg/kg	22	21	14	13
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	66	51	33	28
Copper	5	mg/kg	23	23	40	35
Lead	5	mg/kg	40	36	31	26
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	12	11	19	13
Zinc	5	mg/kg	32	38	77	48

Client Sample ID			DS05	HA15B-0.05	HA15B-0.15	HA15B-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42340	S19-No42347	S19-No42348	S19-No42350
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	3.4
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	210	620	1400
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	210	620	1396.6
TRH >C16-C34	100	mg/kg	< 100	1300	1200	1800
TRH >C34-C40	100	mg/kg	< 100	290	280	220
TRH >C10-C40 (total)*	100	mg/kg	< 100	1800	2100	3420
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	79	280	830
TRH C15-C28	50	mg/kg	< 50	1100	1300	2200
TRH C29-C36	50	mg/kg	< 50	360	330	260
TRH C10-C36 (Total)	50	mg/kg	< 50	1539	1910	3290
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	74	63	85	96
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	-	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	-	-
Acenaphthene	0.5	mg/kg	< 0.5	-	-	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	-	-
Anthracene	0.5	mg/kg	< 0.5	-	-	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	-	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	-	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	-	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	-	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Chrysene	0.5	mg/kg	< 0.5	-	-	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	-	-
Fluoranthene	0.5	mg/kg	< 0.5	-	-	-
Fluorene	0.5	mg/kg	< 0.5	-	-	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	-	-
Naphthalene	0.5	mg/kg	< 0.5	-	-	-
Phenanthrene	0.5	mg/kg	< 0.5	-	-	-
Pyrene	0.5	mg/kg	< 0.5	-	-	-
Total PAH*	0.5	mg/kg	< 0.5	-	-	-
2-Fluorobiphenyl (surr.)	1	%	110	-	-	-
p-Terphenyl-d14 (surr.)	1	%	INT	-	-	-

Client Sample ID			DS05	HA15B-0.05	HA15B-0.15	HA15B-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42340	S19-No42347	S19-No42348	S19-No42350
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	-
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	-
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	-
a-BHC	0.05	mg/kg	< 0.05	-	-	-
Aldrin	0.05	mg/kg	< 0.05	-	-	-
b-BHC	0.05	mg/kg	< 0.05	-	-	-
d-BHC	0.05	mg/kg	< 0.05	-	-	-
Dieldrin	0.05	mg/kg	< 0.05	-	-	-
Endosulfan I	0.05	mg/kg	< 0.05	-	-	-
Endosulfan II	0.05	mg/kg	< 0.05	-	-	-
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	-
Endrin	0.05	mg/kg	< 0.05	-	-	-
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	-
Endrin ketone	0.05	mg/kg	< 0.05	-	-	-
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	-
Heptachlor	0.05	mg/kg	< 0.05	-	-	-
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	-
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	-
Methoxychlor	0.2	mg/kg	< 0.2	-	-	-
Toxaphene	1	mg/kg	< 1	-	-	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	-	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	-	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	-	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	-	-
Dibutylchlorendate (surr.)	1	%	144	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	142	-	-	-
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Bolstar	0.2	mg/kg	< 0.2	-	-	-
Chlorfenvinphos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos	0.2	mg/kg	< 0.2	-	-	-
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	-	-	-
Coumaphos	2	mg/kg	< 2	-	-	-
Demeton-S	0.2	mg/kg	< 0.2	-	-	-
Demeton-O	0.2	mg/kg	< 0.2	-	-	-
Diazinon	0.2	mg/kg	< 0.2	-	-	-
Dichlorvos	0.2	mg/kg	< 0.2	-	-	-
Dimethoate	0.2	mg/kg	< 0.2	-	-	-
Disulfoton	0.2	mg/kg	< 0.2	-	-	-
EPN	0.2	mg/kg	< 0.2	-	-	-
Ethion	0.2	mg/kg	< 0.2	-	-	-
Ethoprop	0.2	mg/kg	< 0.2	-	-	-
Ethyl parathion	0.2	mg/kg	< 0.2	-	-	-
Fenitrothion	0.2	mg/kg	< 0.2	-	-	-
Fensulfothion	0.2	mg/kg	< 0.2	-	-	-
Fenthion	0.2	mg/kg	< 0.2	-	-	-
Malathion	0.2	mg/kg	< 0.2	-	-	-
Merphos	0.2	mg/kg	< 1	-	-	-

Client Sample ID			DS05	HA15B-0.05	HA15B-0.15	HA15B-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42340	S19-No42347	S19-No42348	S19-No42350
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Methyl parathion	0.2	mg/kg	< 0.2	-	-	-
Mevinphos	0.2	mg/kg	< 0.2	-	-	-
Monocrotophos	2	mg/kg	< 2	-	-	-
Naled	0.2	mg/kg	< 0.2	-	-	-
Omethoate	2	mg/kg	< 2	-	-	-
Phorate	0.2	mg/kg	< 0.2	-	-	-
Pirimiphos-methyl	0.2	mg/kg	< 0.2	-	-	-
Pyrazophos	0.2	mg/kg	< 0.2	-	-	-
Ronnel	0.2	mg/kg	< 0.2	-	-	-
Terbufos	0.2	mg/kg	< 0.2	-	-	-
Tetrachlorvinphos	0.2	mg/kg	< 0.2	-	-	-
Tokuthion	0.2	mg/kg	< 0.2	-	-	-
Trichloronate	0.2	mg/kg	< 0.2	-	-	-
Triphenylphosphate (surr.)	1	%	78	-	-	-
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1242	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1248	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1254	0.5	mg/kg	< 0.5	-	-	-
Aroclor-1260	0.5	mg/kg	< 0.5	-	-	-
Total PCB*	0.5	mg/kg	< 0.5	-	-	-
Dibutylchlorendate (surr.)	1	%	144	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	142	-	-	-
Total Organic Carbon	0.1	%	1.3	-	-	-
% Moisture	1	%	25	9.0	16	18
Heavy Metals						
Arsenic	2	mg/kg	8.6	-	-	-
Cadmium	0.4	mg/kg	< 0.4	-	-	-
Chromium	5	mg/kg	22	-	-	-
Copper	5	mg/kg	59	-	-	-
Lead	5	mg/kg	21	-	-	-
Mercury	0.1	mg/kg	< 0.1	-	-	-
Nickel	5	mg/kg	41	-	-	-
Zinc	5	mg/kg	120	-	-	-

Client Sample ID			HA15B-0.8	HA15C-0.05	HA15C-0.2	HA01B-0.05
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42352	S19-No42353	S19-No42354	S19-No42355
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	-
TRH >C10-C16	50	mg/kg	99	< 50	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	99	< 50	< 50	-
TRH >C16-C34	100	mg/kg	270	100	< 100	-
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	369	100	< 100	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	-
TRH C10-C14	20	mg/kg	50	< 20	< 20	-
TRH C15-C28	50	mg/kg	260	54	< 50	-
TRH C29-C36	50	mg/kg	84	73	< 50	-
TRH C10-C36 (Total)	50	mg/kg	394	127	< 50	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	-
Xylenes - Total	0.3	mg/kg	< 0.3	< 0.3	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	82	98	83	-
% Moisture	1	%	15	11	16	6.3
Heavy Metals						
Copper	5	mg/kg	-	-	-	45
Zinc	5	mg/kg	-	-	-	94

Client Sample ID			HA01B-0.2	HA06B-0.05	HA06B-0.2	HA18B-0.05
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42356	S19-No42357	S19-No42358	S19-No42359
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
% Moisture	1	%	10	8.0	9.8	10
Heavy Metals						
Copper	5	mg/kg	43	-	-	-
Zinc	5	mg/kg	83	34	110	35

Client Sample ID			HA18B-0.2	SO01	SO02	SO03
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42360	S19-No42361	S19-No42362	S19-No42363
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4.5-Trichlorophenol	1	mg/kg	-	< 1	< 1	< 1
2.4.6-Trichlorophenol	1	mg/kg	-	< 1	< 1	< 1
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
4-Chloro-3-methylphenol	1	mg/kg	-	< 1	< 1	< 1
Pentachlorophenol	1	mg/kg	-	< 1	< 1	< 1
Tetrachlorophenols - Total	10	mg/kg	-	< 10	< 10	< 10
Total Halogenated Phenol*	1	mg/kg	-	< 1	< 1	< 1
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	< 20	< 20
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	< 5	< 5
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
2-Nitrophenol	1	mg/kg	-	< 1	< 1	< 1
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4-Dinitrophenol	5	mg/kg	-	< 5	< 5	< 5
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	< 0.4	< 0.4
4-Nitrophenol	5	mg/kg	-	< 5	< 5	< 5
Dinoseb	20	mg/kg	-	< 20	< 20	< 20
Phenol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	< 20	< 20
Phenol-d6 (surr.)	1	%	-	103	102	104
% Moisture	1	%	11	12	8.3	5.1
Heavy Metals						
Zinc	5	mg/kg	19	-	-	-

Client Sample ID			SO04	SO05	QA3	QA5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42364	S19-No42365	S19-No42366	S19-No42367
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	-	-	< 0.5
TRH C6-C10	20	mg/kg	-	-	-	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	-	-	< 20
TRH >C10-C16	50	mg/kg	-	-	-	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	-	-	< 50
TRH >C16-C34	100	mg/kg	-	-	-	< 100
TRH >C34-C40	100	mg/kg	-	-	-	< 100
TRH >C10-C40 (total)*	100	mg/kg	-	-	-	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	-	-	< 20
TRH C10-C14	20	mg/kg	-	-	-	< 20
TRH C15-C28	50	mg/kg	-	-	-	< 50
TRH C29-C36	50	mg/kg	-	-	-	< 50
TRH C10-C36 (Total)	50	mg/kg	-	-	-	< 50

Client Sample ID			SO04	SO05	QA3	QA5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42364	S19-No42365	S19-No42366	S19-No42367
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	-	-	-	< 0.1
Toluene	0.1	mg/kg	-	-	-	< 0.1
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.1
m&p-Xylenes	0.2	mg/kg	-	-	-	< 0.2
o-Xylene	0.1	mg/kg	-	-	-	< 0.1
Xylenes - Total	0.3	mg/kg	-	-	-	< 0.3
4-Bromofluorobenzene (surr.)	1	%	-	-	-	52
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	-	-	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	-	-	1.2
Acenaphthene	0.5	mg/kg	-	-	-	< 0.5
Acenaphthylene	0.5	mg/kg	-	-	-	< 0.5
Anthracene	0.5	mg/kg	-	-	-	< 0.5
Benz(a)anthracene	0.5	mg/kg	-	-	-	< 0.5
Benzo(a)pyrene	0.5	mg/kg	-	-	-	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	-	-	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	-	-	-	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Chrysene	0.5	mg/kg	-	-	-	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	-	-	-	< 0.5
Fluoranthene	0.5	mg/kg	-	-	-	< 0.5
Fluorene	0.5	mg/kg	-	-	-	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	-	-	< 0.5
Naphthalene	0.5	mg/kg	-	-	-	< 0.5
Phenanthrene	0.5	mg/kg	-	-	-	< 0.5
Pyrene	0.5	mg/kg	-	-	-	< 0.5
Total PAH*	0.5	mg/kg	-	-	-	< 0.5
2-Fluorobiphenyl (surr.)	1	%	-	-	-	97
p-Terphenyl-d14 (surr.)	1	%	-	-	-	109
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	-	-	< 0.05
a-BHC	0.05	mg/kg	-	-	-	< 0.05
Aldrin	0.05	mg/kg	-	-	-	< 0.05
b-BHC	0.05	mg/kg	-	-	-	< 0.05
d-BHC	0.05	mg/kg	-	-	-	< 0.05
Dieldrin	0.05	mg/kg	-	-	-	< 0.05
Endosulfan I	0.05	mg/kg	-	-	-	< 0.05
Endosulfan II	0.05	mg/kg	-	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	-	-	< 0.05
Endrin	0.05	mg/kg	-	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	-	-	< 0.05
Endrin ketone	0.05	mg/kg	-	-	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	-	-	< 0.05
Heptachlor	0.05	mg/kg	-	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	-	-	< 0.05

Client Sample ID			SO04	SO05	QA3	QA5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42364	S19-No42365	S19-No42366	S19-No42367
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	-	-	-	< 0.05
Methoxychlor	0.2	mg/kg	-	-	-	< 0.2
Toxaphene	1	mg/kg	-	-	-	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	-	-	120
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	92
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	-	-	-	< 0.2
Bolstar	0.2	mg/kg	-	-	-	< 0.2
Chlorfenvinphos	0.2	mg/kg	-	-	-	< 0.2
Chlorpyrifos	0.2	mg/kg	-	-	-	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	-	-	-	< 0.2
Coumaphos	2	mg/kg	-	-	-	< 2
Demeton-S	0.2	mg/kg	-	-	-	< 0.2
Demeton-O	0.2	mg/kg	-	-	-	< 0.2
Diazinon	0.2	mg/kg	-	-	-	< 0.2
Dichlorvos	0.2	mg/kg	-	-	-	< 0.2
Dimethoate	0.2	mg/kg	-	-	-	< 0.2
Disulfoton	0.2	mg/kg	-	-	-	< 0.2
EPN	0.2	mg/kg	-	-	-	< 0.2
Ethion	0.2	mg/kg	-	-	-	< 0.2
Ethoprop	0.2	mg/kg	-	-	-	< 0.2
Ethyl parathion	0.2	mg/kg	-	-	-	< 0.2
Fenitrothion	0.2	mg/kg	-	-	-	< 0.2
Fensulfothion	0.2	mg/kg	-	-	-	< 0.2
Fenthion	0.2	mg/kg	-	-	-	< 0.2
Malathion	0.2	mg/kg	-	-	-	< 0.2
Merphos	0.2	mg/kg	-	-	-	< 0.4
Methyl parathion	0.2	mg/kg	-	-	-	< 0.2
Mevinphos	0.2	mg/kg	-	-	-	< 0.2
Monocrotophos	2	mg/kg	-	-	-	< 2
Naled	0.2	mg/kg	-	-	-	< 0.2
Omethoate	2	mg/kg	-	-	-	< 2
Phorate	0.2	mg/kg	-	-	-	< 0.2
Pirimiphos-methyl	0.2	mg/kg	-	-	-	< 0.2
Pyrazophos	0.2	mg/kg	-	-	-	< 0.2
Ronnel	0.2	mg/kg	-	-	-	< 0.2
Terbufos	0.2	mg/kg	-	-	-	< 0.2
Tetrachlorvinphos	0.2	mg/kg	-	-	-	< 0.2
Tokuthion	0.2	mg/kg	-	-	-	< 0.2
Trichloronate	0.2	mg/kg	-	-	-	< 0.2
Triphenylphosphate (surr.)	1	%	-	-	-	86

Client Sample ID			SO04	SO05	QA3	QA5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S19-No42364	S19-No42365	S19-No42366	S19-No42367
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1221	0.1	mg/kg	-	-	-	< 0.1
Aroclor-1232	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1242	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1248	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1254	0.5	mg/kg	-	-	-	< 0.5
Aroclor-1260	0.5	mg/kg	-	-	-	< 0.5
Total PCB*	0.5	mg/kg	-	-	-	< 0.5
Dibutylchlorendate (surr.)	1	%	-	-	-	120
Tetrachloro-m-xylene (surr.)	1	%	-	-	-	92
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2.4.5-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	-
2.4.6-Trichlorophenol	1	mg/kg	< 1	< 1	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
4-Chloro-3-methylphenol	1	mg/kg	< 1	< 1	< 1	-
Pentachlorophenol	1	mg/kg	< 1	< 1	< 1	-
Tetrachlorophenols - Total	10	mg/kg	< 10	< 10	< 10	-
Total Halogenated Phenol*	1	mg/kg	< 1	< 1	< 1	-
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	< 20	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	< 5	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	< 0.2	< 0.2	-
2-Nitrophenol	1	mg/kg	< 1	< 1	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	< 5	< 5	< 5	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	< 0.4	< 0.4	-
4-Nitrophenol	5	mg/kg	< 5	< 5	< 5	-
Dinoseb	20	mg/kg	< 20	< 20	< 20	-
Phenol	0.5	mg/kg	< 0.5	< 0.5	< 0.5	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	< 20	< 20	-
Phenol-d6 (surr.)	1	%	106	105	106	-
Total Organic Carbon	0.1	%	-	-	-	0.5
% Moisture	1	%	17	9.2	8.5	30
Heavy Metals						
Arsenic	2	mg/kg	-	-	-	14
Cadmium	0.4	mg/kg	-	-	-	< 0.4
Chromium	5	mg/kg	-	-	-	42
Copper	5	mg/kg	-	-	-	32
Lead	5	mg/kg	-	-	-	53
Mercury	0.1	mg/kg	-	-	-	< 0.1
Nickel	5	mg/kg	-	-	-	12
Zinc	5	mg/kg	-	-	-	41

Client Sample ID			TRIP BLANK SOIL
Sample Matrix			**Soil**
Eurofins Sample No.			**S19-No42372**
Date Sampled			**Nov 27, 2019**
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene[N02]	0.5	mg/kg	< 0.5
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions			
TRH C6-C9	20	mg/kg	< 20
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	90

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Dec 03, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Dec 03, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Dec 03, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Dec 03, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins | mgt Suite B1			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Dec 03, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Dec 03, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Dec 03, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Dec 03, 2019	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Dec 03, 2019	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Dec 03, 2019	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Phenols (Halogenated)	Sydney	Dec 03, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Phenols (non-Halogenated)	Sydney	Dec 03, 2019	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Total Organic Carbon	Melbourne	Dec 04, 2019	28 Days
- Method: LTM-INO-4060 Total Organic Carbon in water and soil			
Heavy Metals	Sydney	Dec 03, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
% Moisture	Sydney	Nov 29, 2019	14 Days
- Method: LTM-GEN-7080 Moisture			

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NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - TASK 1
Report #: 690964
Phone: 02 8907 9000
Fax:

Received: Nov 29, 2019 4:00 PM
Due: Dec 6, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
External Laboratory																	
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
1	DS01	Nov 27, 2019		Soil	S19-No42336			X				X	X		X		
2	DS02	Nov 27, 2019		Soil	S19-No42337			X				X	X		X		
3	DS03	Nov 27, 2019		Soil	S19-No42338			X				X	X		X		
4	DS04	Nov 27, 2019		Soil	S19-No42339			X				X	X		X		
5	DS05	Nov 27, 2019		Soil	S19-No42340			X				X	X		X		
6	MW01	Nov 27, 2019		Water	S19-No42341									X			
7	MW02	Nov 27, 2019		Water	S19-No42342									X			
8	MW03	Nov 27, 2019		Water	S19-No42343									X			
9	MW04	Nov 27, 2019		Water	S19-No42344									X			
10	MW05	Nov 27, 2019		Water	S19-No42345									X			

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Report #: 690964
Phone: 02 8907 9000
Fax:

Received: Nov 29, 2019 4:00 PM
Due: Dec 6, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

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Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
11	MW06	Nov 27, 2019		Water	S19-No42346									X			
12	HA15B-0.05	Nov 27, 2019		Soil	S19-No42347								X			X	
13	HA15B-0.15	Nov 27, 2019		Soil	S19-No42348								X			X	
14	HA15B-0.4	Nov 27, 2019		Soil	S19-No42349		X										
15	HA15B-0.6	Nov 27, 2019		Soil	S19-No42350								X			X	
16	HA15B-0.7	Nov 27, 2019		Soil	S19-No42351		X										
17	HA15B-0.8	Nov 27, 2019		Soil	S19-No42352								X			X	
18	HA15C-0.05	Nov 27, 2019		Soil	S19-No42353								X			X	
19	HA15C-0.2	Nov 27, 2019		Soil	S19-No42354								X			X	
20	HA01B-0.05	Nov 27, 2019		Soil	S19-No42355	X			X				X				
21	HA01B-0.2	Nov 27, 2019		Soil	S19-No42356	X			X				X				
22	HA06B-0.05	Nov 27, 2019		Soil	S19-No42357				X				X				
23	HA06B-0.2	Nov 27, 2019		Soil	S19-No42358				X				X				

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Order No.: 10035157 - TASK 1
Report #: 690964
Phone: 02 8907 9000
Fax:

Received: Nov 29, 2019 4:00 PM
Due: Dec 6, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
24	HA18B-0.05	Nov 27, 2019		Soil	S19-No42359				X				X				
25	HA18B-0.2	Nov 27, 2019		Soil	S19-No42360				X				X				
26	SO01	Nov 27, 2019		Soil	S19-No42361						X		X				
27	SO02	Nov 27, 2019		Soil	S19-No42362						X		X				
28	SO03	Nov 27, 2019		Soil	S19-No42363						X		X				
29	SO04	Nov 27, 2019		Soil	S19-No42364						X		X				
30	SO05	Nov 27, 2019		Soil	S19-No42365						X		X				
31	QA3	Nov 27, 2019		Soil	S19-No42366						X		X				
32	QA5	Nov 27, 2019		Soil	S19-No42367			X				X	X		X		
33	QA3 WATER	Nov 27, 2019		Water	S19-No42369									X			
34	TRIP BLANK	Nov 27, 2019		Water	S19-No42370												X
35	TRIP SPIKE	Nov 27, 2019		Water	S19-No42371												X
36	TRIP BLANK	Nov 27, 2019		Soil	S19-No42372												X

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Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - TASK 1
Report #: 690964
Phone: 02 8907 9000
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Received: Nov 29, 2019 4:00 PM
Due: Dec 6, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
	SOIL																
37	RINSATE 27/11	Nov 27, 2019		Water	S19-No42395					X						X	
38	RINSATE 28/11	Nov 28, 2019		Water	S19-No42396					X						X	
Test Counts						2	2	6	6	2	6	6	24	7	6	8	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2.4.5-Trichlorophenol	mg/kg	< 1			1	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1	Pass	
Pentachlorophenol	mg/kg	< 1			1	Pass	
Tetrachlorophenols - Total	mg/kg	< 10			10	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
2-Nitrophenol	mg/kg	< 1			1	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH C6-C10	%	88			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	92			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	101			70-130	Pass	
Toluene	%	98			70-130	Pass	
Ethylbenzene	%	103			70-130	Pass	
m&p-Xylenes	%	103			70-130	Pass	
o-Xylene	%	102			70-130	Pass	
Xylenes - Total	%	103			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	101			70-130	Pass	
Acenaphthylene	%	107			70-130	Pass	
Anthracene	%	118			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	106			70-130	Pass	
Benzo(b&j)fluoranthene	%	106			70-130	Pass	
Benzo(g.h.i)perylene	%	112			70-130	Pass	
Benzo(k)fluoranthene	%	122			70-130	Pass	
Chrysene	%	127			70-130	Pass	
Dibenz(a.h)anthracene	%	104			70-130	Pass	
Fluoranthene	%	111			70-130	Pass	
Fluorene	%	115			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	104			70-130	Pass	
Naphthalene	%	108			70-130	Pass	
Phenanthrene	%	115			70-130	Pass	
Pyrene	%	110			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	121			70-130	Pass	
4.4'-DDD	%	117			70-130	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDE			%	123			70-130	Pass	
4.4'-DDT			%	114			70-130	Pass	
a-BHC			%	120			70-130	Pass	
Aldrin			%	126			70-130	Pass	
b-BHC			%	120			70-130	Pass	
d-BHC			%	112			70-130	Pass	
Dieldrin			%	126			70-130	Pass	
Endosulfan I			%	125			70-130	Pass	
Endosulfan II			%	118			70-130	Pass	
Endosulfan sulphate			%	117			70-130	Pass	
Endrin			%	121			70-130	Pass	
Endrin aldehyde			%	103			70-130	Pass	
Endrin ketone			%	124			70-130	Pass	
g-BHC (Lindane)			%	121			70-130	Pass	
Heptachlor			%	118			70-130	Pass	
Heptachlor epoxide			%	125			70-130	Pass	
Hexachlorobenzene			%	123			70-130	Pass	
Methoxychlor			%	118			70-130	Pass	
Toxaphene			%	130			70-130	Pass	
LCS - % Recovery									
Organophosphorus Pesticides									
Dimethoate			%	123			70-130	Pass	
Ethion			%	103			70-130	Pass	
Fenitrothion			%	114			70-130	Pass	
Methyl parathion			%	118			70-130	Pass	
Mevinphos			%	115			70-130	Pass	
LCS - % Recovery									
Polychlorinated Biphenyls									
Aroclor-1260			%	90			70-130	Pass	
LCS - % Recovery									
Phenols (Halogenated)									
2-Chlorophenol			%	101			30-130	Pass	
2.4-Dichlorophenol			%	100			30-130	Pass	
2.4.5-Trichlorophenol			%	111			30-130	Pass	
2.4.6-Trichlorophenol			%	108			30-130	Pass	
2.6-Dichlorophenol			%	105			30-130	Pass	
4-Chloro-3-methylphenol			%	98			30-130	Pass	
LCS - % Recovery									
Phenols (non-Halogenated)									
2-Cyclohexyl-4.6-dinitrophenol			%	96			30-130	Pass	
2-Methyl-4.6-dinitrophenol			%	90			30-130	Pass	
2-Methylphenol (o-Cresol)			%	99			30-130	Pass	
2-Nitrophenol			%	102			30-130	Pass	
2.4-Dimethylphenol			%	88			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)			%	105			30-130	Pass	
4-Nitrophenol			%	95			30-130	Pass	
Phenol			%	96			30-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-No42337	CP	%	71			70-130	Pass	
TRH C6-C10	S19-No42337	CP	%	82			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH C6-C9	S19-No42337	CP	%	86			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-No42337	CP	%	93			70-130	Pass	
Toluene	S19-No42337	CP	%	91			70-130	Pass	
Ethylbenzene	S19-No42337	CP	%	93			70-130	Pass	
m&p-Xylenes	S19-No42337	CP	%	96			70-130	Pass	
o-Xylene	S19-No42337	CP	%	92			70-130	Pass	
Xylenes - Total	S19-No42337	CP	%	95			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-No42339	CP	%	118			70-130	Pass	
Cadmium	S19-No42339	CP	%	118			70-130	Pass	
Chromium	S19-No42339	CP	%	114			70-130	Pass	
Copper	S19-No42339	CP	%	113			70-130	Pass	
Lead	S19-No42339	CP	%	113			70-130	Pass	
Mercury	S19-No42339	CP	%	121			70-130	Pass	
Nickel	S19-No42339	CP	%	119			70-130	Pass	
Zinc	S19-No42339	CP	%	113			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-No42336	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S19-No42336	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-No42336	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-No42336	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S19-No42336	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S19-No42336	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S19-No42336	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S19-No42336	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	S19-No42336	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-No42338	CP	mg/kg	14	15	6.0	30%	Pass	
Cadmium	S19-No42338	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S19-No42338	CP	mg/kg	33	23	35	30%	Fail	Q15
Copper	S19-No42338	CP	mg/kg	40	43	6.0	30%	Pass	
Lead	S19-No42338	CP	mg/kg	31	46	37	30%	Fail	Q15
Mercury	S19-No42338	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S19-No42338	CP	mg/kg	19	20	3.0	30%	Pass	
Zinc	S19-No42338	CP	mg/kg	77	76	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-No42352	CP	%	15	18	19	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S19-No42362	CP	%	8.3	8.0	4.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Ursula Long	Analytical Services Manager
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Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

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Certificate of Analysis

Arcadis Australia
Lvl 16/580 George Street
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Jack Palma**

Report **690964-W**
Project name 10035157
Project ID 10035157
Received Date Nov 29, 2019

Client Sample ID			**MW01**	**MW02**	**MW03**	**MW04**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**S19-No42341**	**S19-No42342**	**S19-No42343**	**S19-No42344**
Date Sampled			**Nov 27, 2019**	**Nov 27, 2019**	**Nov 27, 2019**	**Nov 27, 2019**
Test/Reference	LOR	Unit				
Semivolatile Organics						
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
1-Chloronaphthalene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1-Naphthylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.3-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.3.4-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.3.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.4-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.2.4.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.3-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.3.5-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1.4-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Chloronaphthalene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Methylnaphthalene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Naphthylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Nitroaniline	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2-Picoline	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2.3.4.6-Tetrachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2.4-Dinitrotoluene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.6-Dinitrotoluene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
3-Methylcholanthrene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
3.3'-Dichlorobenzidine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Aminobiphenyl	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Bromophenyl phenyl ether	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			MW01	MW02	MW03	MW04
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-No42341	S19-No42342	S19-No42343	S19-No42344
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
4-Chlorophenyl phenyl ether	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
4.4'-DDD	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4.4'-DDE	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4.4'-DDT	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
7.12-Dimethylbenz(a)anthracene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
a-BHC	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acetophenone	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aldrin	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aniline	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
b-BHC	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzyl chloride	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-chloroethoxy)methane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-chloroisopropyl)ether	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-ethylhexyl)phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Butyl benzyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
d-BHC	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Di-n-butyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Di-n-octyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.j)acridine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dibenzofuran	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dieldrin	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Diethyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dimethyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dimethylaminoazobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Diphenylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endosulfan I	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endosulfan II	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endosulfan sulphate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endrin	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endrin aldehyde	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endrin ketone	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
g-BHC (Lindane)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Heptachlor	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Heptachlor epoxide	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorobutadiene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005

Client Sample ID			MW01	MW02	MW03	MW04
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-No42341	S19-No42342	S19-No42343	S19-No42344
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
Hexachlorocyclopentadiene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachloroethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Methoxychlor	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
N-Nitrosodibutylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
N-Nitrosodipropylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
N-Nitrosopiperidine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Nitrobenzene	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Pentachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Pentachloronitrobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Pronamide	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Trifluralin	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Phenol-d6 (surr.)	1	%	29	29	32	33
Nitrobenzene-d5 (surr.)	1	%	64	54	70	67
2-Fluorobiphenyl (surr.)	1	%	64	53	146	65
2.4.6-Tribromophenol (surr.)	1	%	65	66	110	89

Client Sample ID			MW05	MW06	QA3 WATER	TRIP BLANK
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-No42345	S19-No42346	S19-No42369	S19-No42370
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	-	-	-	< 0.01
TRH C6-C10	0.02	mg/L	-	-	-	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	-	-	< 0.02
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	-	-	-	< 0.02
BTEX						
Benzene	0.001	mg/L	-	-	-	< 0.001
Toluene	0.001	mg/L	-	-	-	< 0.001
Ethylbenzene	0.001	mg/L	-	-	-	< 0.001
m&p-Xylenes	0.002	mg/L	-	-	-	< 0.002
o-Xylene	0.001	mg/L	-	-	-	< 0.001
Xylenes - Total	0.003	mg/L	-	-	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	-	-	106
Semivolatile Organics						
2-Methyl-4.6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
1-Chloronaphthalene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
1-Naphthylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
1.2-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
1.2.3-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
1.2.3.4-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-

Client Sample ID			MW05	MW06	QA3 WATER	TRIP BLANK
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-No42345	S19-No42346	S19-No42369	S19-No42370
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
1.2.3.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
1.2.4-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
1.2.4.5-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
1.3-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
1.3.5-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
1.4-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
2-Chloronaphthalene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2-Methylnaphthalene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2-Naphthylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
2-Nitroaniline	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2-Picoline	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
2.3.4.6-Tetrachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
2.4-Dinitrotoluene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
2.6-Dinitrotoluene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	-
3-Methylcholanthrene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
3.3'-Dichlorobenzidine	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
4-Aminobiphenyl	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
4-Bromophenyl phenyl ether	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
4-Chlorophenyl phenyl ether	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	-
4.4'-DDD	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
4.4'-DDE	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
4.4'-DDT	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
7.12-Dimethylbenz(a)anthracene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
a-BHC	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Acetophenone	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Aldrin	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Aniline	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
b-BHC	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Benzyl chloride	0.005	mg/L	< 0.005	< 0.005	< 0.005	-

Client Sample ID			MW05	MW06	QA3 WATER	TRIP BLANK
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S19-No42345	S19-No42346	S19-No42369	S19-No42370
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 27, 2019	Nov 27, 2019
Test/Reference	LOR	Unit				
Semivolatile Organics						
Bis(2-chloroethoxy)methane	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Bis(2-chloroisopropyl)ether	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Bis(2-ethylhexyl)phthalate	0.005	mg/L	< 0.005	< 0.005	0.007	-
Butyl benzyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
d-BHC	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Di-n-butyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Di-n-octyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Dibenz(a.j)acridine	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Dibenzofuran	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Dieldrin	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Diethyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Dimethyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Dimethylaminoazobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Diphenylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Endosulfan I	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Endosulfan II	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Endosulfan sulphate	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Endrin	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Endrin aldehyde	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Endrin ketone	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
g-BHC (Lindane)	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Heptachlor	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Heptachlor epoxide	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Hexachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Hexachlorobutadiene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Hexachlorocyclopentadiene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Hexachloroethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Methoxychlor	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
N-Nitrosodibutylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
N-Nitrosodipropylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
N-Nitrosopiperidine	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Nitrobenzene	0.05	mg/L	< 0.05	< 0.05	< 0.05	-
Pentachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Pentachloronitrobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	-
Pronamide	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	-
Trifluralin	0.005	mg/L	< 0.005	< 0.005	< 0.005	-
Phenol-d6 (surr.)	1	%	27	30	39	-
Nitrobenzene-d5 (surr.)	1	%	56	63	78	-
2-Fluorobiphenyl (surr.)	1	%	56	54	74	-
2.4.6-Tribromophenol (surr.)	1	%	81	74	109	-

Client Sample ID			R20 TRIP SPIKE	RINSATE 27/11	RINSATE 28/11
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S19-No42371	S19-No42395	S19-No42396
Date Sampled			Nov 27, 2019	Nov 27, 2019	Nov 28, 2019
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene N02	0.01	mg/L	98	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	89	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1) N04	0.02	mg/L	-	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	-	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2) N01	0.05	mg/L	-	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	-	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	-	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	-	< 0.1	< 0.1
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	88	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	-	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	-	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	-	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	-	< 0.1	< 0.1
BTEX					
Benzene	0.001	mg/L	100	< 0.001	< 0.001
Toluene	0.001	mg/L	100	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	110	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	100	< 0.002	< 0.002
o-Xylene	0.001	mg/L	100	< 0.001	< 0.001
Xylenes - Total	0.003	mg/L	100	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	109	116	126
Heavy Metals					
Arsenic	0.001	mg/L	-	< 0.001	< 0.001
Cadmium	0.0002	mg/L	-	< 0.0002	< 0.0002
Chromium	0.001	mg/L	-	< 0.001	< 0.001
Copper	0.001	mg/L	-	< 0.001	< 0.001
Lead	0.001	mg/L	-	< 0.001	< 0.001
Mercury	0.0001	mg/L	-	< 0.0001	< 0.0001
Nickel	0.001	mg/L	-	0.001	0.001
Zinc	0.005	mg/L	-	0.006	0.006

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 29, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Nov 29, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Nov 29, 2019	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Nov 29, 2019	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Eurofins | mgt Suite B1			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Nov 29, 2019	
- Method: LTM-ORG-2010 TRH C6-C40			
Semivolatile Organics	Melbourne	Dec 02, 2019	7 Days
- Method: LTM-ORG-2190 SVOC in Water & Soil by GC-MS			
Metals M8	Sydney	Nov 29, 2019	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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Company Name: Arcadis Australia
Address: Lvl 16/580 George Street
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NSW 2000

Project Name: 10035157
Project ID: 10035157

Order No.: 10035157 - TASK 1
Report #: 690964
Phone: 02 8907 9000
Fax:

Received: Nov 29, 2019 4:00 PM
Due: Dec 6, 2019
Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
External Laboratory																	
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**												
1	DS01	Nov 27, 2019		Soil	S19-No42336			X				X	X		X		
2	DS02	Nov 27, 2019		Soil	S19-No42337			X				X	X		X		
3	DS03	Nov 27, 2019		Soil	S19-No42338			X				X	X		X		
4	DS04	Nov 27, 2019		Soil	S19-No42339			X				X	X		X		
5	DS05	Nov 27, 2019		Soil	S19-No42340			X				X	X		X		
6	MW01	Nov 27, 2019		Water	S19-No42341									X			
7	MW02	Nov 27, 2019		Water	S19-No42342									X			
8	MW03	Nov 27, 2019		Water	S19-No42343									X			
9	MW04	Nov 27, 2019		Water	S19-No42344									X			
10	MW05	Nov 27, 2019		Water	S19-No42345									X			

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Fax:

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Priority: 5 Day
Contact Name: Jack Palma

Eurofins Analytical Services Manager : Ursula Long

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Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
11	MW06	Nov 27, 2019		Water	S19-No42346									X			
12	HA15B-0.05	Nov 27, 2019		Soil	S19-No42347								X			X	
13	HA15B-0.15	Nov 27, 2019		Soil	S19-No42348								X			X	
14	HA15B-0.4	Nov 27, 2019		Soil	S19-No42349		X										
15	HA15B-0.6	Nov 27, 2019		Soil	S19-No42350								X			X	
16	HA15B-0.7	Nov 27, 2019		Soil	S19-No42351		X										
17	HA15B-0.8	Nov 27, 2019		Soil	S19-No42352								X			X	
18	HA15C-0.05	Nov 27, 2019		Soil	S19-No42353								X			X	
19	HA15C-0.2	Nov 27, 2019		Soil	S19-No42354								X			X	
20	HA01B-0.05	Nov 27, 2019		Soil	S19-No42355	X			X				X				
21	HA01B-0.2	Nov 27, 2019		Soil	S19-No42356	X			X				X				
22	HA06B-0.05	Nov 27, 2019		Soil	S19-No42357				X				X				
23	HA06B-0.2	Nov 27, 2019		Soil	S19-No42358				X				X				

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Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
24	HA18B-0.05	Nov 27, 2019		Soil	S19-No42359				X				X				
25	HA18B-0.2	Nov 27, 2019		Soil	S19-No42360				X				X				
26	SO01	Nov 27, 2019		Soil	S19-No42361						X		X				
27	SO02	Nov 27, 2019		Soil	S19-No42362						X		X				
28	SO03	Nov 27, 2019		Soil	S19-No42363						X		X				
29	SO04	Nov 27, 2019		Soil	S19-No42364						X		X				
30	SO05	Nov 27, 2019		Soil	S19-No42365						X		X				
31	QA3	Nov 27, 2019		Soil	S19-No42366						X		X				
32	QA5	Nov 27, 2019		Soil	S19-No42367			X				X	X		X		
33	QA3 WATER	Nov 27, 2019		Water	S19-No42369									X			
34	TRIP BLANK	Nov 27, 2019		Water	S19-No42370												X
35	TRIP SPIKE	Nov 27, 2019		Water	S19-No42371												X
36	TRIP BLANK	Nov 27, 2019		Soil	S19-No42372												X

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Sample Detail						Copper	HOLD	Total Organic Carbon	Zinc	Metals M8	Phenols (IWRG 621)	Eurofins | mgt Suite B15	Moisture Set	Semivolatile Organics	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271								X						X			
Sydney Laboratory - NATA Site # 18217 & 14271						X	X		X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794 & 14271																	
Perth Laboratory - NATA Site # 23736 & 14271																	
	SOIL																
37	RINSATE 27/11	Nov 27, 2019		Water	S19-No42395					X						X	
38	RINSATE 28/11	Nov 28, 2019		Water	S19-No42396					X						X	
Test Counts						2	2	6	6	2	6	6	24	7	6	8	3

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Semivolatile Organics							
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
1-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
1-Naphthylamine	mg/L	< 0.005			0.005	Pass	
1.2-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.4-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3.5-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.4-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
2-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2-Methylnaphthalene	mg/L	< 0.005			0.005	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	
2-Naphthylamine	mg/L	< 0.005			0.005	Pass	
2-Nitroaniline	mg/L	< 0.005			0.005	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2-Picoline	mg/L	< 0.005			0.005	Pass	
2.3.4.6-Tetrachlorophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2.4-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.6-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
3-Methylcholanthrene	mg/L	< 0.005			0.005	Pass	
3.3'-Dichlorobenzidine	mg/L	< 0.005			0.005	Pass	
4-Aminobiphenyl	mg/L	< 0.005			0.005	Pass	
4-Bromophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
4-Chlorophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
4.4'-DDD	mg/L	< 0.005			0.005	Pass	
4.4'-DDE	mg/L	< 0.005			0.005	Pass	
4.4'-DDT	mg/L	< 0.005			0.005	Pass	
7.12-Dimethylbenz(a)anthracene	mg/L	< 0.005			0.005	Pass	
a-BHC	mg/L	< 0.005			0.005	Pass	
Acenaphthene	mg/L	< 0.001			0.001	Pass	
Acenaphthylene	mg/L	< 0.001			0.001	Pass	
Acetophenone	mg/L	< 0.005			0.005	Pass	
Aldrin	mg/L	< 0.005			0.005	Pass	
Aniline	mg/L	< 0.005			0.005	Pass	
Anthracene	mg/L	< 0.001			0.001	Pass	
b-BHC	mg/L	< 0.005			0.005	Pass	
Benz(a)anthracene	mg/L	< 0.001			0.001	Pass	
Benzo(a)pyrene	mg/L	< 0.001			0.001	Pass	
Benzo(b&j)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzo(g.h.i)perylene	mg/L	< 0.001			0.001	Pass	
Benzo(k)fluoranthene	mg/L	< 0.001			0.001	Pass	
Benzyl chloride	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroethoxy)methane	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroisopropyl)ether	mg/L	< 0.005			0.005	Pass	
Bis(2-ethylhexyl)phthalate	mg/L	< 0.005			0.005	Pass	
Butyl benzyl phthalate	mg/L	< 0.005			0.005	Pass	
Chrysene	mg/L	< 0.001			0.001	Pass	
d-BHC	mg/L	< 0.005			0.005	Pass	
Di-n-butyl phthalate	mg/L	< 0.005			0.005	Pass	
Di-n-octyl phthalate	mg/L	< 0.005			0.005	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001			0.001	Pass	
Dibenz(a.j)acridine	mg/L	< 0.005			0.005	Pass	
Dibenzofuran	mg/L	< 0.005			0.005	Pass	
Dieldrin	mg/L	< 0.005			0.005	Pass	
Diethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethylaminoazobenzene	mg/L	< 0.005			0.005	Pass	
Diphenylamine	mg/L	< 0.005			0.005	Pass	
Endosulfan I	mg/L	< 0.005			0.005	Pass	
Endosulfan II	mg/L	< 0.005			0.005	Pass	
Endosulfan sulphate	mg/L	< 0.005			0.005	Pass	
Endrin	mg/L	< 0.005			0.005	Pass	
Endrin aldehyde	mg/L	< 0.005			0.005	Pass	
Endrin ketone	mg/L	< 0.005			0.005	Pass	
Fluoranthene	mg/L	< 0.001			0.001	Pass	
Fluorene	mg/L	< 0.001			0.001	Pass	
g-BHC (Lindane)	mg/L	< 0.005			0.005	Pass	
Heptachlor	mg/L	< 0.005			0.005	Pass	
Heptachlor epoxide	mg/L	< 0.005			0.005	Pass	
Hexachlorobenzene	mg/L	< 0.005			0.005	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobutadiene			mg/L	< 0.005			0.005	Pass	
Hexachlorocyclopentadiene			mg/L	< 0.005			0.005	Pass	
Hexachloroethane			mg/L	< 0.005			0.005	Pass	
Indeno(1.2.3-cd)pyrene			mg/L	< 0.001			0.001	Pass	
Methoxychlor			mg/L	< 0.005			0.005	Pass	
N-Nitrosodibutylamine			mg/L	< 0.005			0.005	Pass	
N-Nitrosodipropylamine			mg/L	< 0.005			0.005	Pass	
N-Nitrosopiperidine			mg/L	< 0.005			0.005	Pass	
Naphthalene			mg/L	< 0.001			0.001	Pass	
Nitrobenzene			mg/L	< 0.05			0.05	Pass	
Pentachlorobenzene			mg/L	< 0.005			0.005	Pass	
Pentachloronitrobenzene			mg/L	< 0.005			0.005	Pass	
Pentachlorophenol			mg/L	< 0.01			0.01	Pass	
Phenanthrene			mg/L	< 0.001			0.001	Pass	
Phenol			mg/L	< 0.003			0.003	Pass	
Pronamide			mg/L	< 0.005			0.005	Pass	
Pyrene			mg/L	< 0.001			0.001	Pass	
Trifluralin			mg/L	< 0.005			0.005	Pass	
Method Blank									
Heavy Metals									
Arsenic			mg/L	< 0.001			0.001	Pass	
Cadmium			mg/L	< 0.0002			0.0002	Pass	
Chromium			mg/L	< 0.001			0.001	Pass	
Copper			mg/L	< 0.001			0.001	Pass	
Lead			mg/L	< 0.001			0.001	Pass	
Mercury			mg/L	< 0.0001			0.0001	Pass	
Nickel			mg/L	< 0.001			0.001	Pass	
Zinc			mg/L	< 0.005			0.005	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Semivolatile Organics				Result 1					
1.2.4-Trichlorobenzene	M19-No41896	NCP	%	93			70-130	Pass	
1.4-Dichlorobenzene	M19-No41896	NCP	%	88			70-130	Pass	
2-Chlorophenol	M19-No41896	NCP	%	92			30-130	Pass	
2.4-Dinitrotoluene	M19-No41896	NCP	%	85			70-130	Pass	
4-Chloro-3-methylphenol	M19-No41896	NCP	%	83			30-130	Pass	
4-Nitrophenol	M19-No41896	NCP	%	104			30-130	Pass	
Acenaphthene	M19-No41896	NCP	%	83			70-130	Pass	
N-Nitrosodipropylamine	M19-No41896	NCP	%	101			70-130	Pass	
Pentachlorophenol	M19-No41896	NCP	%	113			30-130	Pass	
Phenol	M19-No41896	NCP	%	62			30-130	Pass	
Pyrene	M19-No41896	NCP	%	78			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S19-No40166	NCP	%	95			70-130	Pass	
TRH C6-C10	S19-No40166	NCP	%	106			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S19-No40166	NCP	%	105			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S19-No40166	NCP	%	95			70-130	Pass	
Toluene	S19-No40166	NCP	%	95			70-130	Pass	
Ethylbenzene	S19-No40166	NCP	%	92			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
m&p-Xylenes	S19-No40166	NCP	%	92			70-130	Pass	
o-Xylene	S19-No40166	NCP	%	91			70-130	Pass	
Xylenes - Total	S19-No40166	NCP	%	92			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S19-No42255	NCP	%	105			70-130	Pass	
Cadmium	S19-No42255	NCP	%	100			70-130	Pass	
Chromium	S19-No42255	NCP	%	103			70-130	Pass	
Copper	S19-No42255	NCP	%	97			70-130	Pass	
Lead	S19-No42255	NCP	%	104			70-130	Pass	
Mercury	S19-No42255	NCP	%	110			70-130	Pass	
Nickel	S19-No42255	NCP	%	101			70-130	Pass	
Zinc	S19-No42255	NCP	%	98			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
2-Methyl-4.6-dinitrophenol	S19-No42341	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
1-Chloronaphthalene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1-Naphthylamine	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2-Dichlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3-Trichlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.4-Tetrachlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.3.5-Tetrachlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.4-Trichlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.2.4.5-Tetrachlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.3-Dichlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.3.5-Trichlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
1.4-Dichlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Chloronaphthalene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Chlorophenol	S19-No42341	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2-Methylnaphthalene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Methylphenol (o-Cresol)	S19-No42341	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2-Naphthylamine	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Nitroaniline	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2-Nitrophenol	S19-No42341	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2-Picoline	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2.3.4.6-Tetrachlorophenol	M19-No41895	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4-Dichlorophenol	S19-No42341	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dimethylphenol	S19-No42341	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.4-Dinitrophenol	S19-No42341	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
2.4-Dinitrotoluene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
2.4.5-Trichlorophenol	S19-No42341	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.4.6-Trichlorophenol	S19-No42341	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
2.6-Dichlorophenol	S19-No42341	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
2.6-Dinitrotoluene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	S19-No42341	CP	mg/L	< 0.006	< 0.006	<1	30%	Pass	
3-Methylcholanthrene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
3.3'-Dichlorobenzidine	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Aminobiphenyl	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Bromophenyl phenyl ether	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Chloro-3-methylphenol	S19-No42341	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
4-Chlorophenyl phenyl ether	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4-Nitrophenol	S19-No42341	CP	mg/L	< 0.03	< 0.03	<1	30%	Pass	
4.4'-DDD	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
4.4'-DDE	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
4.4'-DDT	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
7.12-Dimethylbenz(a)anthracene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
a-BHC	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Acenaphthene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acetophenone	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aldrin	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Aniline	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Anthracene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
b-BHC	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Benz(a)anthracene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzyl chloride	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-chloroethoxy)methane	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-chloroisopropyl)ether	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Bis(2-ethylhexyl)phthalate	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Butyl benzyl phthalate	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chrysene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
d-BHC	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Di-n-butyl phthalate	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Di-n-octyl phthalate	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dibenz(a.h)anthracene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.j)acridine	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dibenzofuran	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dieldrin	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Diethyl phthalate	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dimethyl phthalate	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Dimethylaminoazobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Diphenylamine	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan I	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan II	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endosulfan sulphate	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin aldehyde	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Endrin ketone	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Fluoranthene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
g-BHC (Lindane)	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Heptachlor	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Heptachlor epoxide	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorobutadiene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachlorocyclopentadiene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Hexachloroethane	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Methoxychlor	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosodibutylamine	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
N-Nitrosodipropylamine	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Semivolatile Organics				Result 1	Result 2	RPD			
N-Nitrosopiperidine	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Naphthalene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Nitrobenzene	M19-No41895	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Pentachlorobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pentachloronitrobenzene	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pentachlorophenol	S19-No42341	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Phenanthrene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenol	S19-No42341	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Pronamide	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Pyrene	S19-No42341	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Trifluralin	M19-No41895	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S19-No40165	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S19-No40165	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S19-No40165	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S19-No40165	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S19-No40165	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S19-No40165	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S19-No40165	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	S19-No40165	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	S19-No40165	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S19-No42253	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cadmium	S19-No42253	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	S19-No42253	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper	S19-No31674	NCP	mg/L	0.001	0.001	6.0	30%	Pass	
Lead	S19-No42253	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	S19-No42253	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	S19-No31674	NCP	mg/L	0.002	0.002	12	30%	Pass	
Zinc	S19-No31674	NCP	mg/L	0.006	0.006	9.0	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)
Joseph Edouard	Senior Analyst-Organic (VIC)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☑ **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format (ESdat, EQuIS etc)	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Containers: Change container type & size if necessary.

Required Turnaround Time (TAT): Default will be 5 days if not ticked.

♦Surcharge will apply
- ☐ Overnight (reporting by 9am)♦
- ☐ Same day♦ ☐ 1 day♦
- ☐ 2 days♦ ☐ 3 days♦
- ☑ 5 days (Standard)
- ☐ Other( )

Analyses: Where metals are requested, please specify "Total" or "Filtered". SUITE code must be used to attract SUITE pricing.

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	B1 - TRH, BETXN	M8 - Heavy Metals	Creosote	B5 - TRH, BTEXN, 8 Metals	500mL Plastic	250mL Plastic	125mL Plastic	100mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	(1) QA4	27/11/19	S								X								1		Please forward to ALS
2	QA3	27/11/19	W					X												2	
3	(2) QA4	27/11/19	W					X												2	Please forward to ALS
4	Trip blank	-	W						X								2				
5	Trip spike	-	W						X								2				
6	Trip blank	-	S						X								1				
7	Rinsate	27/11/19	W									X			1	1	2				
8	Rinsate	28/11/19	W									X			1	1	2				
9	HA15B - 0.4	27/11/19	S	X															1		
10	QA5	27/11/19	S		X	X	X												1		Sediment sample
		Total Counts		1	1	1	1	2	3		1	2			2	2	9		3	4	

Environmental Division Sydney
Work Order Reference
ES1939785

Telephone : +61-2-8784 8555

Method of Shipment: ☑ Courier (#) ☐ Hand Delivered ☐ Postal

Name	Jack Palma	Signature		Date		Time	

rec: [illegible] 27/11/19 12.2°C

*CHAIN OF CUSTODY RECORD

Eurofins | mgt ABN 50 005 085 521

☑ **Sydney Laboratory** Unit F3 Bld.F 16 Mars Road Lane Cove West NSW 2066 02 9900 8400 EnviroSampleNSW@eurofins.com

☐ **Brisbane Laboratory** Unit 1 21 Smallwood Place Murarrie QLD 4172 07 3902 4600 EnviroSampleQLD@eurofins.com

☐ **Perth Laboratory** Unit 2 91 Leach Highway Kewdale WA 6105 08 9251 9600 EnviroSampleWA@eurofins.com

☐ **Melbourne Laboratory** 6 Monterey Road Dandenong South VIC 3175 03 8564 5000 EnviroSampleVic@eurofins.com

Company	Arcadis Sydney	Project №	10035157	Project Manager	Jack Palma
Address	Level 16, 580 George Street	Project Name		EDD Format (ESdat, EQuIS etc)	ESDAT + EQUIS
Contact Name	Jack Palma				
Phone №	0408 988 954				
Special Directions					
Purchase Order	10035157 - task 1				
Quote ID №	191112ARCN				

Sampler(s)	Jack Palma
Handed over by	Jack Palma
Email for Invoice	AU.Accounts.Payable@arcadis.com; jack.palma@arcadis.com; ciaran.lavery@arcadis.com
Email for Results	ciaran.lavery@arcadis.com; jack.palma@arcadis.com

Analyses — Where metals are requested, please specify "Total" or "Filtered"; SUITE code must be used to attract SUITE pricing.

Containers — Change container type & size if necessary.

Required Turnaround Time (TAT) — Default will be 5 days if not ticked.

♦Surcharge will apply
- ☐ Overnight (reporting by 9am)♦
- ☐ Same day♦ ☐ 1 day♦
- ☐ 2 days♦ ☐ 3 days♦
- ☑ 5 days (Standard)
- ☐ Other( )

№	Client Sample ID	Sampled Date/Time dd/mm/yy hh:mm	Matrix Solid (S) Water (W)	Hold	B7 - TRH, BTEXN, PAH, 8 Metals	B15 - OCP, OPP, PCB	TOC - Total Organic Carbon	SVOC in Water	B1 - TRH, BETXN	M8 - Heavy Metals	Creosote	B5 - TRH, BTEXN, 8 Metals						500mL Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL VOA vial	500mL PFAS Bottle	Jar (Glass or HDPE)	Large Amber bottle	Sample Comments / Dangerous Goods Hazard Warning
1	3 QA6	27/11/19	S		X	X	X																	1		Please forward to ALS. Sediment sample
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
		Total Counts				1	1																	1		

Method of Shipment	☑ Courier (#)	☐ Hand Delivered	☐ Postal	Name	Jack Palma	Signature		Date		Time	

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES1939785**	Page	: 1 of 13
Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JACK PALMA	Contact	: Loren Schiavon
Address	: LEVEL 16 580 GEORGE STREET SYDNEY NSW 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 8907 9000	Telephone	: +61 2 8784 8555
Project	: 10035157	Date Samples Received	: 02-Dec-2019 11:30
Order number	: ----	Date Analysis Commenced	: 03-Dec-2019
C-O-C number	: ----	Issue Date	: 10-Dec-2019 13:10
Sampler	: JACK PALMA		
Site	: ----		
Quote number	: EN/333 - Secondary Work		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP075: 'Sum of PAH' is the sum of the USEPA 16 priority PAHs

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA4	QA6	----	----	----
			Client sampling date / time	27-Nov-2019 00:00	27-Nov-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1939785-001	ES1939785-003	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	0.1	%	9.3	----	----	----	----
Moisture Content	----	1.0	%	----	27.4	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	----	11	----	----	----
Cadmium	7440-43-9	1	mg/kg	----	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	----	35	----	----	----
Copper	7440-50-8	5	mg/kg	----	19	----	----	----
Lead	7439-92-1	5	mg/kg	----	24	----	----	----
Nickel	7440-02-0	2	mg/kg	----	7	----	----	----
Zinc	7440-66-6	5	mg/kg	----	25	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	----	<0.1	----	----	----
EP004: Organic Matter								
Total Organic Carbon	----	0.5	%	----	<0.5	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	----	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	----	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	----	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	----	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	----	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	----	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	----	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	----	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	----	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	----	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	----	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	----	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	----	<0.05	----	----	----
Endrin	72-20-8	0.05	mg/kg	----	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	----	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	----	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA4	QA6	----	----	----
			Client sampling date / time	27-Nov-2019 00:00	27-Nov-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1939785-001	ES1939785-003	--------	--------	--------
				Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued								
4.4`-DDD	72-54-8	0.05	mg/kg	----	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	----	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	----	<0.05	----	----	----
4.4`-DDT	50-29-3	0.2	mg/kg	----	<0.2	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg	----	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg	----	<0.2	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.05	mg/kg	----	<0.05	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.05	mg/kg	----	<0.05	----	----	----
EP068B: Organophosphorus Pesticides (OP)								
Dichlorvos	62-73-7	0.05	mg/kg	----	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg	----	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg	----	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg	----	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg	----	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	----	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg	----	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg	----	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg	----	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg	----	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg	----	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg	----	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg	----	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg	----	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg	----	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg	----	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg	----	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg	----	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg	----	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds								
Phenol	108-95-2	0.5	mg/kg	<0.5	----	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	----	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	----	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	----	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	----	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA4	QA6	----	----	----
			Client sampling date / time	27-Nov-2019 00:00	27-Nov-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1939785-001	ES1939785-003	--------	--------	--------
				Result	Result	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued								
2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	----	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	----	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	----	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg	<2	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg	----	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg	----	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg	----	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg	----	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg	----	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg	----	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg	----	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg	----	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	----	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg	----	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	----	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	----	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	----	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	----	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg	----	**0.6**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg	----	**1.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	10	mg/kg	----	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg	----	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg	----	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg	----	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA4	QA6	----	----	----
			Client sampling date / time	27-Nov-2019 00:00	27-Nov-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1939785-001	ES1939785-003	--------	--------	--------
				Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	10	mg/kg	----	<10	----	----	----
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg	----	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg	----	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg	----	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg	----	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg	----	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg	----	<50	----	----	----
EP080: BTEXN								
Benzene	71-43-2	0.2	mg/kg	----	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg	----	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg	----	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	----	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg	----	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg	----	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg	----	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg	----	<1	----	----	----
EP066S: PCB Surrogate								
Decachlorobiphenyl	2051-24-3	0.1	%	----	89.1	----	----	----
EP068S: Organochlorine Pesticide Surrogate								
Dibromo-DDE	21655-73-2	0.05	%	----	97.8	----	----	----
EP068T: Organophosphorus Pesticide Surrogate								
DEF	78-48-8	0.05	%	----	101	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates								
Phenol-d6	13127-88-3	0.5	%	94.8	86.5	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%	100	100	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%	84.4	64.7	----	----	----
EP075(SIM)T: PAH Surrogates								
2-Fluorobiphenyl	321-60-8	0.5	%	92.8	92.0	----	----	----
Anthracene-d10	1719-06-8	0.5	%	103	96.2	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%	112	101	----	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	0.2	%	----	86.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QA4	QA6	----	----	----
			Client sampling date / time	27-Nov-2019 00:00	27-Nov-2019 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES1939785-001	ES1939785-003	--------	--------	--------
				Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued								
Toluene-D8	2037-26-5	0.2	%	**----**	**87.9**	**----**	**----**	**----**
4-Bromofluorobenzene	460-00-4	0.2	%	**----**	**83.2**	**----**	**----**	**----**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	QA4	----	----	----	----
			Client sampling date / time	27-Nov-2019 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1939785-002	--------	--------	--------	--------
				Result	----	----	----	----
EP075A: Phenolic Compounds								
Phenol	108-95-2	2	µg/L	<2	----	----	----	----
2-Chlorophenol	95-57-8	2	µg/L	<2	----	----	----	----
2-Methylphenol	95-48-7	2	µg/L	<2	----	----	----	----
3- & 4-Methylphenol	1319-77-3	4	µg/L	<4	----	----	----	----
2-Nitrophenol	88-75-5	2	µg/L	<2	----	----	----	----
2.4-Dimethylphenol	105-67-9	2	µg/L	<2	----	----	----	----
2.4-Dichlorophenol	120-83-2	2	µg/L	<2	----	----	----	----
2.6-Dichlorophenol	87-65-0	2	µg/L	<2	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	----	----	----	----
Pentachlorophenol	87-86-5	4	µg/L	<4	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons								
Naphthalene	91-20-3	2	µg/L	<2	----	----	----	----
2-Methylnaphthalene	91-57-6	2	µg/L	<2	----	----	----	----
2-Chloronaphthalene	91-58-7	2	µg/L	<2	----	----	----	----
Acenaphthylene	208-96-8	2	µg/L	<2	----	----	----	----
Acenaphthene	83-32-9	2	µg/L	<2	----	----	----	----
Fluorene	86-73-7	2	µg/L	<2	----	----	----	----
Phenanthrene	85-01-8	2	µg/L	<2	----	----	----	----
Anthracene	120-12-7	2	µg/L	<2	----	----	----	----
Fluoranthene	206-44-0	2	µg/L	<2	----	----	----	----
Pyrene	129-00-0	2	µg/L	<2	----	----	----	----
N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	----	----	----	----
Benz(a)anthracene	56-55-3	2	µg/L	<2	----	----	----	----
Chrysene	218-01-9	2	µg/L	<2	----	----	----	----
Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	----	----	----	----
7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	----	----	----	----
Benzo(a)pyrene	50-32-8	2	µg/L	<2	----	----	----	----
3-Methylcholanthrene	56-49-5	2	µg/L	<2	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	----	----	----	----
^ Sum of PAHs	----	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	QA4	----	----	----	----
			Client sampling date / time	27-Nov-2019 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1939785-002	--------	--------	--------	--------
				Result	----	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons - Continued								
^ Benzo(a)pyrene TEQ (zero)	----	2	µg/L	<2	----	----	----	----
EP075C: Phthalate Esters								
Dimethyl phthalate	131-11-3	2	µg/L	<2	----	----	----	----
Diethyl phthalate	84-66-2	2	µg/L	<2	----	----	----	----
Di-n-butyl phthalate	84-74-2	2	µg/L	<2	----	----	----	----
Butyl benzyl phthalate	85-68-7	2	µg/L	<2	----	----	----	----
bis(2-ethylhexyl) phthalate	117-81-7	10	µg/L	<10	----	----	----	----
Di-n-octylphthalate	117-84-0	2	µg/L	<2	----	----	----	----
EP075D: Nitrosamines								
N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	----	----	----	----
N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	----	----	----	----
N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	----	----	----	----
N-Nitrosomorpholine	59-89-2	2	µg/L	<2	----	----	----	----
N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	----	----	----	----
N-Nitrosopiperidine	100-75-4	2	µg/L	<2	----	----	----	----
N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	----	----	----	----
N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	----	----	----	----
Methapyrilene	91-80-5	2	µg/L	<2	----	----	----	----
EP075E: Nitroaromatics and Ketones								
2-Picoline	109-06-8	2	µg/L	<2	----	----	----	----
Acetophenone	98-86-2	2	µg/L	<2	----	----	----	----
Nitrobenzene	98-95-3	2	µg/L	<2	----	----	----	----
Isophorone	78-59-1	2	µg/L	<2	----	----	----	----
2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	----	----	----	----
2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	----	----	----	----
1-Naphthylamine	134-32-7	2	µg/L	<2	----	----	----	----
4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	----	----	----	----
5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	----	----	----	----
Azobenzene	103-33-3	2	µg/L	<2	----	----	----	----
1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	----	----	----	----
Phenacetin	62-44-2	2	µg/L	<2	----	----	----	----
4-Aminobiphenyl	92-67-1	2	µg/L	<2	----	----	----	----
Pentachloronitrobenzene	82-68-8	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	QA4	----	----	----	----
			Client sampling date / time	27-Nov-2019 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1939785-002	--------	--------	--------	--------
				Result	----	----	----	----
EP075E: Nitroaromatics and Ketones - Continued								
Pronamide	23950-58-5	2	µg/L	<2	----	----	----	----
Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	----	----	----	----
Chlorobenzilate	510-15-6	2	µg/L	<2	----	----	----	----
EP075F: Haloethers								
Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	----	----	----	----
Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	----	----	----	----
4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	----	----	----	----
4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	----	----	----	----
EP075G: Chlorinated Hydrocarbons								
1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	----	----	----	----
1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	----	----	----	----
1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	----	----	----	----
Hexachloroethane	67-72-1	2	µg/L	<2	----	----	----	----
1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	----	----	----	----
Hexachloropropylene	1888-71-7	2	µg/L	<2	----	----	----	----
Hexachlorobutadiene	87-68-3	2	µg/L	<2	----	----	----	----
Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	----	----	----	----
Pentachlorobenzene	608-93-5	2	µg/L	<2	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	----	----	----	----
EP075H: Anilines and Benzidines								
Aniline	62-53-3	2	µg/L	<2	----	----	----	----
4-Chloroaniline	106-47-8	2	µg/L	<2	----	----	----	----
2-Nitroaniline	88-74-4	4	µg/L	<4	----	----	----	----
3-Nitroaniline	99-09-2	4	µg/L	<4	----	----	----	----
Dibenzofuran	132-64-9	2	µg/L	<2	----	----	----	----
4-Nitroaniline	100-01-6	2	µg/L	<2	----	----	----	----
Carbazole	86-74-8	2	µg/L	<2	----	----	----	----
3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	----	----	----	----
EP075I: Organochlorine Pesticides								
alpha-BHC	319-84-6	2	µg/L	<2	----	----	----	----
beta-BHC	319-85-7	2	µg/L	<2	----	----	----	----
gamma-BHC	58-89-9	2	µg/L	<2	----	----	----	----
delta-BHC	319-86-8	2	µg/L	<2	----	----	----	----
Heptachlor	76-44-8	2	µg/L	<2	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Client sample ID	QA4	----	----	----	----
			Client sampling date / time	27-Nov-2019 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES1939785-002	--------	--------	--------	--------
				Result	----	----	----	----
EP075I: Organochlorine Pesticides - Continued								
Aldrin	309-00-2	2	µg/L	<2	----	----	----	----
Heptachlor epoxide	1024-57-3	2	µg/L	<2	----	----	----	----
alpha-Endosulfan	959-98-8	2	µg/L	<2	----	----	----	----
4.4`-DDE	72-55-9	2	µg/L	<2	----	----	----	----
Dieldrin	60-57-1	2	µg/L	<2	----	----	----	----
Endrin	72-20-8	2	µg/L	<2	----	----	----	----
beta-Endosulfan	33213-65-9	2	µg/L	<2	----	----	----	----
4.4`-DDD	72-54-8	2	µg/L	<2	----	----	----	----
Endosulfan sulfate	1031-07-8	2	µg/L	<2	----	----	----	----
4.4`-DDT	50-29-3	4	µg/L	<4	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L	<4	----	----	----	----
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	4	µg/L	<4	----	----	----	----
EP075J: Organophosphorus Pesticides								
Dichlorvos	62-73-7	2	µg/L	<2	----	----	----	----
Dimethoate	60-51-5	2	µg/L	<2	----	----	----	----
Diazinon	333-41-5	2	µg/L	<2	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	----	----	----	----
Malathion	121-75-5	2	µg/L	<2	----	----	----	----
Fenthion	55-38-9	2	µg/L	<2	----	----	----	----
Chlorpyrifos	2921-88-2	2	µg/L	<2	----	----	----	----
Pirimphos-ethyl	23505-41-1	2	µg/L	<2	----	----	----	----
Chlorfenvinphos	470-90-6	2	µg/L	<2	----	----	----	----
Prothiofos	34643-46-4	2	µg/L	<2	----	----	----	----
Ethion	563-12-2	2	µg/L	<2	----	----	----	----
EP075S: Acid Extractable Surrogates								
2-Fluorophenol	367-12-4	2	%	**23.7**	----	----	----	----
Phenol-d6	13127-88-3	2	%	**28.6**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	2	%	**55.8**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	2	%	**18.7**	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates								
Nitrobenzene-D5	4165-60-0	2	%	**76.0**	----	----	----	----
1.2-Dichlorobenzene-D4	2199-69-1	2	%	**71.6**	----	----	----	----
2-Fluorobiphenyl	321-60-8	2	%	**70.1**	----	----	----	----

Analytical Results

Sub-Matrix: **WATER** (Matrix: **WATER**)			Client sample ID	**QA4**	**----**	**----**	**----**	**----**
			Client sampling date / time	27-Nov-2019 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	**ES1939785-002**	**--------**	**--------**	**--------**	**--------**
				Result	----	----	----	----
EP075T: Base/Neutral Extractable Surrogates - Continued								
Anthracene-d10	1719-06-8	2	%	**89.4**	**----**	**----**	**----**	**----**
4-Terphenyl-d14	1718-51-0	2	%	**96.2**	**----**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: SOIL		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

Sub-Matrix: WATER		Recovery Limits (%)	
Compound	CAS Number	Low	High
EP075S: Acid Extractable Surrogates			
2-Fluorophenol	367-12-4	10	117
Phenol-d6	13127-88-3	10	69
2-Chlorophenol-D4	93951-73-6	21	130
2.4.6-Tribromophenol	118-79-6	10	151
EP075T: Base/Neutral Extractable Surrogates			
Nitrobenzene-D5	4165-60-0	29	142
1.2-Dichlorobenzene-D4	2199-69-1	24	121
2-Fluorobiphenyl	321-60-8	27	135
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	21	123

QUALITY CONTROL REPORT

Work Order	: **ES1939785**	Page	: 1 of 16
Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JACK PALMA	Contact	: Loren Schiavon
Address	: LEVEL 16 580 GEORGE STREET SYDNEY NSW 2000	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 8907 9000	Telephone	: +61 2 8784 8555
Project	: 10035157	Date Samples Received	: 02-Dec-2019
Order number	: ----	Date Analysis Commenced	: 03-Dec-2019
C-O-C number	: ----	Issue Date	: 10-Dec-2019
Sampler	: JACK PALMA		
Site	: ----		
Quote number	: EN/333 - Secondary Work		
No. of samples received	: 3		
No. of samples analysed	: 3		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2744605)									
EM1920137-069	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	<2	<2	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	<2	<2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	<5	<5	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	5	5	0.00	No Limit
ES1939867-004	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	17	16	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	15	16	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	7	6	19.6	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	33	34	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	47	35	27.2	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	93	77	19.1	0% - 50%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2744609)									
ES1939785-003	QA6	EA055: Moisture Content	----	0.1	%	27.4	27.1	1.03	0% - 20%
ES1939882-001	Anonymous	EA055: Moisture Content	----	0.1	%	13.6	12.2	10.9	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2750010)									
ES1939785-001	QA4	EA055: Moisture Content	----	0.1	%	9.3	10.0	8.14	0% - 20%
ES1940469-007	Anonymous	EA055: Moisture Content	----	0.1	%	15.6	14.5	7.40	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2744606)									
EM1920137-069	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES1939867-004	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP004: Organic Matter (QC Lot: 2751574)									

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP004: Organic Matter (QC Lot: 2751574) - continued									
ES1939785-003	QA6	EP004: Total Organic Carbon	----	0.5	%	<0.5	<0.5	0.00	No Limit
ES1940376-004	Anonymous	EP004: Total Organic Carbon	----	0.5	%	3.0	3.0	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 2740442)									
ES1939847-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2740441)									
ES1939847-001	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2740441)									
ES1939847-001	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2740441) - continued									
ES1939847-001	Anonymous	EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 2740439)									
ES1939847-001	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 2745630)									
ES1940165-002	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2740439)									
ES1939847-001	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
				Laboratory Duplicate (DUP) Report					
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2740439) - continued									
ES1939847-001	Anonymous	EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2745630)									
ES1940165-002	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	1.3	1.5	13.0	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	4.1	4.6	9.69	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	3.8	4.1	6.77	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	1.8	2.0	15.7	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	1.6	1.8	10.3	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	2.6	2.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	1.0	1.0	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	1.8	1.8	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	1.0	1.2	16.4	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	1.2	1.4	8.12	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	20.2	21.9	8.08	0% - 20%
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	2.5	2.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2740440)									
ES1939847-001	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2740465)									
ES1939743-042	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2740465) - continued									
ES1939774-003	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2740440)									
ES1939847-001	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2740465)									
ES1939743-042	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES1939774-003	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
EP080: BTEXN (QC Lot: 2740465)									
ES1939743-042	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES1939774-003	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2744605)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	96.2	86.0	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	96.0	83.0	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	85.7	76.0	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	97.4	86.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	95.4	80.0	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	97.0	87.0	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	103	80.0	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2744606)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	81.5	70.0	105
EP004: Organic Matter (QCLot: 2751574)								
EP004: Total Organic Carbon	----	0.5	%	<0.5	1.46 %	90.4	81.0	99.0
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2740442)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	93.0	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 2740441)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	79.1	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	80.7	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	87.1	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	97.1	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	83.6	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	93.6	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	96.9	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	89.9	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.6	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	82.2	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	82.8	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	89.3	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	89.5	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	86.9	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	82.5	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	86.4	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	108	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	99.5	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	102	64.0	122

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068A: Organochlorine Pesticides (OC) (QCLot: 2740441) - continued								
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	96.6	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2740441)								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	94.0	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	87.0	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	100	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	82.8	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.9	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	81.2	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	80.7	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	80.0	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	81.3	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	83.3	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	82.0	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	81.6	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	75.2	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	82.0	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	74.9	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	82.7	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	80.5	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	95.5	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	90.1	41.0	123
EP075(SIM)A: Phenolic Compounds (QCLot: 2740439)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	89.2	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	97.4	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	90.3	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	93.4	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	78.3	54.0	114
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	91.7	68.0	126
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	96.1	66.0	120
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	92.9	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	95.3	70.0	116
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	85.6	54.0	114
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	90.1	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	32.3	10.0	57.0
EP075(SIM)A: Phenolic Compounds (QCLot: 2745630)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	93.6	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	93.2	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	94.4	71.0	123

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP075(SIM)A: Phenolic Compounds (QCLot: 2745630) - continued								
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	92.2	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	92.1	54.0	114
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	91.2	68.0	126
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	89.1	66.0	120
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	92.6	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	91.2	70.0	116
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	97.5	54.0	114
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	86.4	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	33.6	10.0	57.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2740439)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	90.2	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	90.0	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	94.0	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	91.2	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	95.0	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	91.2	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	92.6	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	94.8	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	94.6	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	95.8	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	98.6	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	98.0	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	95.1	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	95.0	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	97.7	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	99.5	63.0	121
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2745630)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	90.6	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	99.7	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	96.9	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	98.5	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	90.7	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	94.4	77.0	127
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	93.9	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	91.3	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	101	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	92.0	75.0	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2745630) - continued								
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	97.8	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	96.6	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	91.4	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	92.2	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	89.9	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	94.0	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2740440)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	101	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	103	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	102	71.0	129
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2740465)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	77.0	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2740440)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	98.2	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	100	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	91.8	63.0	131
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2740465)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	79.8	68.4	128
EP080: BTEXN (QCLot: 2740465)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	92.2	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	88.3	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	88.6	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	90.8	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	91.2	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	102	63.0	119

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low	Recovery Limits (%) High
EP075A: Phenolic Compounds (QCLot: 2742392)								
EP075: Phenol	108-95-2	2	µg/L	<2	10 µg/L	34.1	25.5	64.1
EP075: 2-Chlorophenol	95-57-8	2	µg/L	<2	10 µg/L	74.4	52.0	88.0
EP075: 2-Methylphenol	95-48-7	2	µg/L	<2	10 µg/L	55.8	50.0	94.0
EP075: 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2	10 µg/L	51.7	45.0	96.2
EP075: 2-Nitrophenol	88-75-5	2	µg/L	<2	10 µg/L	70.0	48.0	98.0
EP075: 2.4-Dimethylphenol	105-67-9	2	µg/L	<2	10 µg/L	# 32.6	50.0	94.0
EP075: 2.4-Dichlorophenol	120-83-2	2	µg/L	<2	10 µg/L	69.6	61.9	109

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075A: Phenolic Compounds (QCLot: 2742392) - continued								
EP075: 2.6-Dichlorophenol	87-65-0	2	µg/L	<2	10 µg/L	73.2	61.5	108
EP075: 4-Chloro-3-methylphenol	59-50-7	2	µg/L	<2	10 µg/L	79.8	61.4	107
EP075: 2.4.6-Trichlorophenol	88-06-2	2	µg/L	<2	10 µg/L	89.6	57.6	112
EP075: 2.4.5-Trichlorophenol	95-95-4	2	µg/L	<2	10 µg/L	95.3	58.0	110
EP075: Pentachlorophenol	87-86-5	4	µg/L	<4	20 µg/L	79.1	12.8	95.0
EP075B: Polynuclear Aromatic Hydrocarbons (QCLot: 2742392)								
EP075: Naphthalene	91-20-3	2	µg/L	<2	10 µg/L	81.1	51.0	95.0
EP075: 2-Methylnaphthalene	91-57-6	2	µg/L	<2	10 µg/L	90.2	59.0	108
EP075: 2-Chloronaphthalene	91-58-7	2	µg/L	<2	10 µg/L	89.0	60.6	106
EP075: Acenaphthylene	208-96-8	2	µg/L	<2	10 µg/L	90.8	64.0	108
EP075: Acenaphthene	83-32-9	2	µg/L	<2	10 µg/L	86.8	65.0	108
EP075: Fluorene	86-73-7	2	µg/L	<2	10 µg/L	79.9	65.2	107
EP075: Phenanthrene	85-01-8	2	µg/L	<2	10 µg/L	91.0	66.7	108
EP075: Anthracene	120-12-7	2	µg/L	<2	10 µg/L	88.4	65.8	108
EP075: Fluoranthene	206-44-0	2	µg/L	<2	10 µg/L	87.2	64.9	109
EP075: Pyrene	129-00-0	2	µg/L	<2	10 µg/L	83.8	60.1	111
EP075: N-2-Fluorenyl Acetamide	53-96-3	2	µg/L	<2	10 µg/L	96.6	59.7	110
EP075: Benz(a)anthracene	56-55-3	2	µg/L	<2	10 µg/L	87.2	62.2	112
EP075: Chrysene	218-01-9	2	µg/L	<2	10 µg/L	87.6	59.3	114
EP075: Benzo(b+j) & Benzo(k)fluoranthene	205-99-2 207-08-9	4	µg/L	<4	20 µg/L	90.8	60.1	111
EP075: 7.12-Dimethylbenz(a)anthracene	57-97-6	2	µg/L	<2	10 µg/L	93.4	50.0	108
EP075: Benzo(a)pyrene	50-32-8	2	µg/L	<2	10 µg/L	94.0	59.2	112
EP075: 3-Methylcholanthrene	56-49-5	2	µg/L	<2	10 µg/L	75.8	60.1	110
EP075: Indeno(1.2.3.cd)pyrene	193-39-5	2	µg/L	<2	10 µg/L	108	59.6	110
EP075: Dibenz(a.h)anthracene	53-70-3	2	µg/L	<2	10 µg/L	106	57.2	109
EP075: Benzo(g.h.i)perylene	191-24-2	2	µg/L	<2	10 µg/L	86.7	60.6	110
EP075: Benzo(a)pyrene TEQ (zero)	----	2	µg/L	<2	----	----	----	----
EP075C: Phthalate Esters (QCLot: 2742392)								
EP075: Dimethyl phthalate	131-11-3	2	µg/L	<2	10 µg/L	94.2	64.3	112
EP075: Diethyl phthalate	84-66-2	2	µg/L	<2	10 µg/L	88.7	67.3	111
EP075: Di-n-butyl phthalate	84-74-2	2	µg/L	<2	10 µg/L	92.9	68.4	122
EP075: Butyl benzyl phthalate	85-68-7	2	µg/L	<2	10 µg/L	87.0	61.2	114
EP075: bis(2-ethylhexyl) phthalate	117-81-7	----	µg/L	----	10 µg/L	107	60.0	132
EP075: Di-n-octylphthalate	117-84-0	2	µg/L	<2	10 µg/L	99.0	62.1	115
EP075D: Nitrosamines (QCLot: 2742392)								
EP075: N-Nitrosomethylethylamine	10595-95-6	2	µg/L	<2	10 µg/L	# 43.2	46.0	110
EP075: N-Nitrosodiethylamine	55-18-5	2	µg/L	<2	10 µg/L	61.0	60.6	113

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075D: Nitrosamines (QCLot: 2742392) - continued								
EP075: N-Nitrosopyrrolidine	930-55-2	4	µg/L	<4	10 µg/L	58.4	45.0	91.0
EP075: N-Nitrosomorpholine	59-89-2	2	µg/L	<2	10 µg/L	53.1	42.0	100
EP075: N-Nitrosodi-n-propylamine	621-64-7	2	µg/L	<2	10 µg/L	74.8	63.5	108
EP075: N-Nitrosopiperidine	100-75-4	2	µg/L	<2	10 µg/L	74.6	61.7	107
EP075: N-Nitrosodibutylamine	924-16-3	2	µg/L	<2	10 µg/L	80.6	62.5	108
EP075: N-Nitrosodiphenyl & Diphenylamine	86-30-6 122-39-4	4	µg/L	<4	20 µg/L	88.0	64.6	112
EP075: Methapyrilene	91-80-5	2	µg/L	<2	10 µg/L	33.9	23.3	125
EP075E: Nitroaromatics and Ketones (QCLot: 2742392)								
EP075: 2-Picoline	109-06-8	2	µg/L	<2	10 µg/L	41.9	41.0	109
EP075: Acetophenone	98-86-2	2	µg/L	<2	10 µg/L	70.9	68.3	112
EP075: Nitrobenzene	98-95-3	2	µg/L	<2	10 µg/L	69.2	68.3	112
EP075: Isophorone	78-59-1	2	µg/L	<2	10 µg/L	73.6	67.6	111
EP075: 2.6-Dinitrotoluene	606-20-2	4	µg/L	<4	10 µg/L	94.4	64.4	113
EP075: 2.4-Dinitrotoluene	121-14-2	4	µg/L	<4	10 µg/L	86.8	59.5	109
EP075: 1-Naphthylamine	134-32-7	2	µg/L	<2	10 µg/L	78.0	46.8	102
EP075: 4-Nitroquinoline-N-oxide	56-57-5	2	µg/L	<2	10 µg/L	78.9	40.0	96.0
EP075: 5-Nitro-o-toluidine	99-55-8	2	µg/L	<2	10 µg/L	89.2	58.3	106
EP075: Azobenzene	103-33-3	2	µg/L	<2	10 µg/L	89.3	66.0	112
EP075: 1.3.5-Trinitrobenzene	99-35-4	2	µg/L	<2	10 µg/L	82.8	46.0	108
EP075: Phenacetin	62-44-2	2	µg/L	<2	10 µg/L	85.9	57.8	101
EP075: 4-Aminobiphenyl	92-67-1	2	µg/L	<2	10 µg/L	68.3	60.1	112
EP075: Pentachloronitrobenzene	82-68-8	2	µg/L	<2	10 µg/L	75.6	59.0	109
EP075: Pronamide	23950-58-5	2	µg/L	<2	10 µg/L	80.9	62.7	109
EP075: Dimethylaminoazobenzene	60-11-7	2	µg/L	<2	10 µg/L	91.3	59.4	108
EP075: Chlorobenzilate	510-15-6	2	µg/L	<2	10 µg/L	87.9	57.7	110
EP075F: Haloethers (QCLot: 2742392)								
EP075: Bis(2-chloroethyl) ether	111-44-4	2	µg/L	<2	10 µg/L	72.6	69.1	112
EP075: Bis(2-chloroethoxy) methane	111-91-1	2	µg/L	<2	10 µg/L	74.5	66.2	111
EP075: 4-Chlorophenyl phenyl ether	7005-72-3	2	µg/L	<2	10 µg/L	76.2	64.7	109
EP075: 4-Bromophenyl phenyl ether	101-55-3	2	µg/L	<2	10 µg/L	78.8	61.6	108
EP075G: Chlorinated Hydrocarbons (QCLot: 2742392)								
EP075: 1.4-Dichlorobenzene	106-46-7	2	µg/L	<2	10 µg/L	71.5	41.0	97.0
EP075: 1.3-Dichlorobenzene	541-73-1	2	µg/L	<2	10 µg/L	75.5	40.0	96.0
EP075: 1.2-Dichlorobenzene	95-50-1	2	µg/L	<2	10 µg/L	65.8	41.0	95.0
EP075: Hexachloroethane	67-72-1	2	µg/L	<2	10 µg/L	58.3	46.0	88.0
EP075: 1.2.4-Trichlorobenzene	120-82-1	2	µg/L	<2	10 µg/L	60.2	46.0	96.0
EP075: Hexachloropropylene	1888-71-7	2	µg/L	<2	10 µg/L	71.4	34.0	96.0

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075G: Chlorinated Hydrocarbons (QCLot: 2742392) - continued								
EP075: Hexachlorobutadiene	87-68-3	2	µg/L	<2	10 µg/L	70.9	37.4	100
EP075: Hexachlorocyclopentadiene	77-47-4	10	µg/L	<10	10 µg/L	63.8	23.5	107
EP075: Pentachlorobenzene	608-93-5	2	µg/L	<2	10 µg/L	80.5	64.5	107
EP075: Hexachlorobenzene (HCB)	118-74-1	4	µg/L	<4	10 µg/L	83.2	65.7	110
EP075H: Anilines and Benzidines (QCLot: 2742392)								
EP075: Aniline	62-53-3	2	µg/L	<2	10 µg/L	65.0	50.0	104
EP075: 4-Chloroaniline	106-47-8	2	µg/L	<2	10 µg/L	76.3	42.0	106
EP075: 2-Nitroaniline	88-74-4	4	µg/L	<4	10 µg/L	94.9	60.9	110
EP075: 3-Nitroaniline	99-09-2	4	µg/L	<4	10 µg/L	89.8	51.5	96.9
EP075: Dibenzofuran	132-64-9	2	µg/L	<2	10 µg/L	86.0	65.3	108
EP075: 4-Nitroaniline	100-01-6	2	µg/L	<2	10 µg/L	# 101	48.9	99.5
EP075: Carbazole	86-74-8	2	µg/L	<2	10 µg/L	92.8	64.3	107
EP075: 3.3`-Dichlorobenzidine	91-94-1	2	µg/L	<2	10 µg/L	83.0	60.3	119
EP075I: Organochlorine Pesticides (QCLot: 2742392)								
EP075: alpha-BHC	319-84-6	2	µg/L	<2	10 µg/L	76.4	64.3	110
EP075: beta-BHC	319-85-7	2	µg/L	<2	10 µg/L	86.5	53.0	107
EP075: gamma-BHC	58-89-9	2	µg/L	<2	10 µg/L	68.4	51.0	111
EP075: delta-BHC	319-86-8	2	µg/L	<2	10 µg/L	79.6	57.0	111
EP075: Heptachlor	76-44-8	2	µg/L	<2	10 µg/L	82.6	57.9	108
EP075: Aldrin	309-00-2	2	µg/L	<2	10 µg/L	76.9	56.0	112
EP075: Heptachlor epoxide	1024-57-3	2	µg/L	<2	10 µg/L	70.2	50.0	118
EP075: alpha-Endosulfan	959-98-8	2	µg/L	<2	10 µg/L	59.6	59.0	111
EP075: 4.4`-DDE	72-55-9	2	µg/L	<2	10 µg/L	80.1	53.0	115
EP075: Dieldrin	60-57-1	2	µg/L	<2	10 µg/L	81.3	59.0	115
EP075: Endrin	72-20-8	2	µg/L	<2	10 µg/L	80.0	58.0	114
EP075: beta-Endosulfan	33213-65-9	2	µg/L	<2	10 µg/L	85.0	54.0	116
EP075: 4.4`-DDD	72-54-8	2	µg/L	<2	10 µg/L	81.6	55.0	115
EP075: Endosulfan sulfate	1031-07-8	2	µg/L	<2	10 µg/L	103	52.8	114
EP075: 4.4`-DDT	50-29-3	4	µg/L	<4	10 µg/L	81.3	56.0	114
EP075: Sum of Aldrin + Dieldrin	309-00-2/60-57-1	4	µg/L	<4	----	----	----	----
EP075: Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	4	µg/L	<4	----	----	----	----
EP075J: Organophosphorus Pesticides (QCLot: 2742392)								
EP075: Dichlorvos	62-73-7	2	µg/L	<2	10 µg/L	102	51.0	113
EP075: Dimethoate	60-51-5	2	µg/L	<2	10 µg/L	85.5	43.0	109
EP075: Diazinon	333-41-5	2	µg/L	<2	10 µg/L	92.0	49.0	113
EP075: Chlorpyrifos-methyl	5598-13-0	2	µg/L	<2	10 µg/L	87.4	54.1	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High
EP075J: Organophosphorus Pesticides (QCLot: 2742392) - continued								
EP075: Malathion	121-75-5	2	µg/L	<2	10 µg/L	115	54.0	124
EP075: Fenthion	55-38-9	2	µg/L	<2	10 µg/L	91.8	57.0	115
EP075: Chlorpyrifos	2921-88-2	2	µg/L	<2	10 µg/L	85.6	53.0	109
EP075: Pirimphos-ethyl	23505-41-1	2	µg/L	<2	10 µg/L	85.7	55.0	111
EP075: Chlorfenvinphos	470-90-6	2	µg/L	<2	10 µg/L	79.8	50.0	116
EP075: Prothiofos	34643-46-4	2	µg/L	<2	10 µg/L	84.5	54.0	118
EP075: Ethion	563-12-2	2	µg/L	<2	10 µg/L	92.6	51.0	117

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Recovery Limits (%): Low	Recovery Limits (%): High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2744605)							
EM1920137-069	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	98.6	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	96.6	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	98.5	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	97.6	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	97.6	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	97.8	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	103	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2744606)							
EM1920137-069	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	96.8	70.0	130
EP004: Organic Matter (QCLot: 2751574)							
ES1939785-003	QA6	EP004: Total Organic Carbon	----	0.34 %	113	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2740442)							
ES1939847-001	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	103	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2740441)							
ES1939847-001	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	79.8	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	77.1	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	95.0	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	94.5	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	109	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	97.8	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2740441)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2740441) - continued							
ES1939847-001	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	85.5	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	79.6	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	73.0	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	81.0	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	75.7	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 2740439)							
ES1939847-001	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	90.8	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	87.2	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	81.8	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	85.1	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	53.3	20.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 2745630)							
ES1940165-002	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	92.4	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	94.5	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	85.2	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	92.7	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	73.4	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2740439)							
ES1939847-001	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	89.4	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	88.8	70.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2745630)							
ES1940165-002	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	101	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	91.4	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2740440)							
ES1939847-001	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	94.8	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	108	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	113	52.0	132
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2740465)							
ES1939743-042	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	116	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2740440)							
ES1939847-001	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	94.4	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	115	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	102	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2740465)							
ES1939743-042	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	122	70.0	130
EP080: BTEXN (QCLot: 2740465)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP080: BTEXN (QCLot: 2740465) - continued							
ES1939743-042	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	92.8	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	100	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	102	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	101	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	104	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	101	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES1939785**	Page	: 1 of 9
Client	: **ARCADIS AUSTRALIA PACIFIC PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: MR JACK PALMA	Telephone	: +61 2 8784 8555
Project	: 10035157	Date Samples Received	: 02-Dec-2019
Site	: ----	Issue Date	: 10-Dec-2019
Sampler	: JACK PALMA	No. of samples received	: 3
Order number	: ----	No. of samples analysed	: 3

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Matrix Spike outliers occur.**
- **Laboratory Control outliers exist - please see following pages for full details.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Laboratory Control Spike (LCS) Recoveries							
EP075A: Phenolic Compounds	QC-2742392-002	----	**2.4-Dimethylphenol**	105-67-9	32.6 %	50.0-94.0%	**Recovery less than lower control limit**
EP075D: Nitrosamines	QC-2742392-002	----	**N-Nitrosomethylethylamine**	10595-95-6	43.2 %	46.0-110%	**Recovery less than lower control limit**
EP075H: Anilines and Benzidines	QC-2742392-002	----	**4-Nitroaniline**	100-01-6	101 %	48.9-99.5%	**Recovery greater than upper control limit**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method	*Extraction / Preparation*			*Analysis*		
Container / Client Sample ID(s)	*Date extracted*	*Due for extraction*	***Days overdue***	*Date analysed*	*Due for analysis*	***Days overdue***
EP075A: Phenolic Compounds						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----
EP075B: Polynuclear Aromatic Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----
EP075C: Phthalate Esters						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----
EP075D: Nitrosamines						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----
EP075E: Nitroaromatics and Ketones						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----
EP075F: Haloethers						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----
EP075G: Chlorinated Hydrocarbons						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----
EP075H: Anilines and Benzidines						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----
EP075I: Organochlorine Pesticides						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----
EP075J: Organophosphorus Pesticides						

Matrix: **WATER**

Method / Container / Client Sample ID(s)	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EP075J: Organophosphorus Pesticides - Analysis Holding Time Compliance						
Amber Glass Bottle - Unpreserved						
QA4	05-Dec-2019	04-Dec-2019	**1**	----	----	----

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Method	Count: QC	Count: Regular	Rate (%): Actual	Rate (%): Expected	Quality Control Specification
Laboratory Duplicates (DUP)					
Semivolatile Organic Compounds	0	7	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
Semivolatile Organic Compounds	0	7	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Evaluation	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Evaluation
EA055: Moisture Content (Dried @ 105-110°C)							
Soil Glass Jar - Unpreserved (EA055)							
QA6	**27-Nov-2019**	**----**	----	----	**05-Dec-2019**	11-Dec-2019	✓
Soil Glass Jar - Unpreserved (EA055)							
QA4	**27-Nov-2019**	**----**	----	----	**06-Dec-2019**	11-Dec-2019	✓
EG005(ED093)T: Total Metals by ICP-AES							
Soil Glass Jar - Unpreserved (EG005T)							
QA6	**27-Nov-2019**	**05-Dec-2019**	25-May-2020	✓	**05-Dec-2019**	25-May-2020	✓
EG035T: Total Recoverable Mercury by FIMS							
Soil Glass Jar - Unpreserved (EG035T)							
QA6	**27-Nov-2019**	**05-Dec-2019**	25-Dec-2019	✓	**05-Dec-2019**	25-Dec-2019	✓
EP004: Organic Matter							
Soil Glass Jar - Unpreserved (EP004)							
QA6	**27-Nov-2019**	**10-Dec-2019**	25-Dec-2019	✓	**10-Dec-2019**	25-Dec-2019	✓
EP066: Polychlorinated Biphenyls (PCB)							
Soil Glass Jar - Unpreserved (EP066)							
QA6	**27-Nov-2019**	**04-Dec-2019**	11-Dec-2019	✓	**05-Dec-2019**	13-Jan-2020	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP068A: Organochlorine Pesticides (OC)							
Soil Glass Jar - Unpreserved (EP068) QA6	27-Nov-2019	04-Dec-2019	11-Dec-2019	✓	05-Dec-2019	13-Jan-2020	✓
EP068B: Organophosphorus Pesticides (OP)							
Soil Glass Jar - Unpreserved (EP068) QA6	27-Nov-2019	04-Dec-2019	11-Dec-2019	✓	05-Dec-2019	13-Jan-2020	✓
EP075(SIM)A: Phenolic Compounds							
Soil Glass Jar - Unpreserved (EP075(SIM)) QA4	27-Nov-2019	05-Dec-2019	11-Dec-2019	✓	06-Dec-2019	14-Jan-2020	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Soil Glass Jar - Unpreserved (EP075(SIM)) QA6	27-Nov-2019	04-Dec-2019	11-Dec-2019	✓	05-Dec-2019	13-Jan-2020	✓
EP080/071: Total Petroleum Hydrocarbons							
Soil Glass Jar - Unpreserved (EP080) QA6	27-Nov-2019	03-Dec-2019	11-Dec-2019	✓	06-Dec-2019	11-Dec-2019	✓
Soil Glass Jar - Unpreserved (EP071) QA6	27-Nov-2019	04-Dec-2019	11-Dec-2019	✓	05-Dec-2019	13-Jan-2020	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Soil Glass Jar - Unpreserved (EP080) QA6	27-Nov-2019	03-Dec-2019	11-Dec-2019	✓	06-Dec-2019	11-Dec-2019	✓
Soil Glass Jar - Unpreserved (EP071) QA6	27-Nov-2019	04-Dec-2019	11-Dec-2019	✓	05-Dec-2019	13-Jan-2020	✓
EP080: BTEXN							
Soil Glass Jar - Unpreserved (EP080) QA6	27-Nov-2019	03-Dec-2019	11-Dec-2019	✓	06-Dec-2019	11-Dec-2019	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075) QA4	27-Nov-2019	05-Dec-2019	04-Dec-2019	×	06-Dec-2019	14-Jan-2020	✓
EP075B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075) QA4	27-Nov-2019	05-Dec-2019	04-Dec-2019	×	06-Dec-2019	14-Jan-2020	✓
EP075C: Phthalate Esters							
Amber Glass Bottle - Unpreserved (EP075) QA4	27-Nov-2019	05-Dec-2019	04-Dec-2019	×	06-Dec-2019	14-Jan-2020	✓
EP075D: Nitrosamines							
Amber Glass Bottle - Unpreserved (EP075) QA4	27-Nov-2019	05-Dec-2019	04-Dec-2019	×	06-Dec-2019	14-Jan-2020	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075E: Nitroaromatics and Ketones							
Amber Glass Bottle - Unpreserved (EP075)							
QA4	**27-Nov-2019**	**05-Dec-2019**	04-Dec-2019	×	**06-Dec-2019**	14-Jan-2020	✓
EP075F: Haloethers							
Amber Glass Bottle - Unpreserved (EP075)							
QA4	**27-Nov-2019**	**05-Dec-2019**	04-Dec-2019	×	**06-Dec-2019**	14-Jan-2020	✓
EP075G: Chlorinated Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075)							
QA4	**27-Nov-2019**	**05-Dec-2019**	04-Dec-2019	×	**06-Dec-2019**	14-Jan-2020	✓
EP075H: Anilines and Benzidines							
Amber Glass Bottle - Unpreserved (EP075)							
QA4	**27-Nov-2019**	**05-Dec-2019**	04-Dec-2019	×	**06-Dec-2019**	14-Jan-2020	✓
EP075I: Organochlorine Pesticides							
Amber Glass Bottle - Unpreserved (EP075)							
QA4	**27-Nov-2019**	**05-Dec-2019**	04-Dec-2019	×	**06-Dec-2019**	14-Jan-2020	✓
EP075J: Organophosphorus Pesticides							
Amber Glass Bottle - Unpreserved (EP075)							
QA4	**27-Nov-2019**	**05-Dec-2019**	04-Dec-2019	×	**06-Dec-2019**	14-Jan-2020	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	Evaluation	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	4	33	12.12	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Organic Matter	EP004	2	9	22.22	10.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	14.29	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	20	10.00	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	12.50	10.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	13	15.38	10.00	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Organic Matter	EP004	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Organic Matter	EP004	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Organic Matter	EP004	1	9	11.11	5.00	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	14.29	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	5	20.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	20	5.00	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	8	12.50	5.00	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	13	7.69	5.00	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Semivolatile Organic Compounds	EP075	0	7	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Semivolatile Organic Compounds	EP075	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Semivolatile Organic Compounds	EP075	1	7	**14.29**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Semivolatile Organic Compounds	EP075	0	7	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 6.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Organic Matter	EP004	SOIL	In house: Referenced to AS1289.4.1.1 - 1997. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (2013) Schedule B(3).
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.
Semivolatile Organic Compounds	EP075	WATER	In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)

Preparation Methods	Method	Matrix	Method Descriptions
Organic Matter	EP004-PR	SOIL	In house: Referenced to AS1289.4.1.1 - 1997. Dichromate oxidation method after Walkley and Black. This method is compliant with NEPM (2013) Schedule B(3) (Method 105)
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.

APPENDIX H – % RPD CALCULATIONS

Soil % RPDs

Water % RPDs

Field Duplicates (soil)
Filter: ALL

	SDG	29-Nov-19	29-Nov-19		29-Nov-19	ALSE-Sydney 02-Dec-19			
	Field ID	SO05	QA3	**RPD**	SO05	QA4	**RPD**		
	Sampled Date/Time	27/11/2019	27/11/2019		27/11/2019	27/11/2019			
Method_T	**ChemName**	**Units**	**EQL**						
Inorganic	Moisture Content	%	1 : 0.1 (Interlab)	9.2	8.5	8	9.2	9.3	1
	TOC	%	0.1 : 0.5 (Interlab)						
Heavy Met	Arsenic	mg/kg	2 : 5 (Interlab)						
	Cadmium	mg/kg	0.4 : 1 (Interlab)						
	Chromium (III+VI)	mg/kg	5 : 2 (Interlab)						
	Copper	mg/kg	5						
	Lead	mg/kg	5						
	Mercury	mg/kg	0.1						
	Nickel	mg/kg	5 : 2 (Interlab)						
	Zinc	mg/kg	5						
al									
Organic	C6-C9	mg/kg	20 : 10 (Interlab)						
TPH	C10-C14	mg/kg	20 : 50 (Interlab)						
	C15-C28	mg/kg	50 : 100 (Interlab)						
	C29-C36	mg/kg	50 : 100 (Interlab)						
	C10-C36 (Sum of total)	mg/kg	50						
Organic	C6-C10	mg/kg	20 : 10 (Interlab)						
	>C6-C10 less BTEX (F1)	mg/kg	20 : 10 (Interlab)						
	C10-C16	mg/kg	50						
	>C10-C16 less Naphthalene (F2)	mg/kg	50						
	C16-C34	mg/kg	100						
	C34-C40	mg/kg	100						
	>C10 - C40 (Sum of total)	mg/kg	100 : 50 (Interlab)						
Volatile	Benzene	mg/kg	0.1 : 0.2 (Interlab)						
	Toluene	mg/kg	0.1 : 0.5 (Interlab)						
	Ethylbenzene	mg/kg	0.1 : 0.5 (Interlab)						
	Xylene (m & p)	mg/kg	0.2 : 0.5 (Interlab)						
	Xylene (o)	mg/kg	0.1 : 0.5 (Interlab)						
	Xylene Total	mg/kg	0.3 : 0.5 (Interlab)						
Organic	Naphthalene	mg/kg	0.5 : 1 (Interlab)						
PAH	Acenaphthene	mg/kg	0.5						
	Acenaphthylene	mg/kg	0.5						
	Anthracene	mg/kg	0.5						
	Benz(a)anthracene	mg/kg	0.5						
	Benzo(a) pyrene	mg/kg	0.5						
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5						
	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5						
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5						
	Benzo(g,h,i)perylene	mg/kg	0.5						
	Benzo(b+j)fluoranthene	mg/kg	0.5						
	Benzo(k)fluoranthene	mg/kg	0.5						
	Chrysene	mg/kg	0.5						
	Dibenz(a,h)anthracene	mg/kg	0.5						
	Fluoranthene	mg/kg	0.5						
	Fluorene	mg/kg	0.5						
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5						
	Naphthalene	mg/kg	0.5 : 1 (Interlab)						
	Phenanthrene	mg/kg	0.5						
	Pyrene	mg/kg	0.5						
	PAHs (Sum of total)	mg/kg	0.5						
SVOC	2,4,5-trichlorophenol	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	2,4,6-trichlorophenol	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	2,4-dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-dimethylphenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2,4-dinitrophenol	mg/kg	5	<5	<5	0	<5		
	2,6-dichlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2-chlorophenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	2-nitrophenol	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	2-methylphenol	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.5	0
	3&4-Methylphenol (m&p-cresol)	mg/kg	0.4 : 1 (Interlab)	<0.4	<0.4	0	<0.4	<1	0
	4,6-Dinitro-2-methylphenol	mg/kg	5	<5	<5	0	<5		
	4,6-Dinitro-o-cyclohexyl phenol	mg/kg	20	<20	<20	0	<20		
	4-chloro-3-methylphenol	mg/kg	1 : 0.5 (Interlab)	<1	<1	0	<1	<0.5	0
	4-nitrophenol	mg/kg	5	<5	<5	0	<5		
	Dinoseb	mg/kg	20	<20	<20	0	<20		
	Pentachlorophenol	mg/kg	1 : 2 (Interlab)	<1	<1	0	<1	<2	0
	Phenol	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	tetrachlorophenols	mg/kg	10	<10	<10	0	<10		
	Phenols (Total Halogenated)	mg/kg	1	<1	<1	0	<1		
	Phenols (Total Non Halogenated)	mg/kg	20	<20	<20	0	<20		
PCB	Arochlor 1016	mg/kg	0.5						
	Arochlor 1221	mg/kg	0.1						
	Arochlor 1232	mg/kg	0.5						

Field Duplicates (soil)
Filter: ALL

			SDG	29-Nov-19	29-Nov-19		29-Nov-19	ALSE-Sydney 02-Dec-19	
			Field ID	SO05	QA3	**RPD**	SO05	QA4	**RPD**
			Sampled Date/Time	27/11/2019	27/11/2019		27/11/2019	27/11/2019	
	Arochlor 1242	mg/kg	0.5						
	Arochlor 1248	mg/kg	0.5						
	Arochlor 1254	mg/kg	0.5						
	Arochlor 1260	mg/kg	0.5						
	PCBs (Sum of total)	mg/kg	0.5 : 0.1 (Interlab)						
OCP	a-BHC	mg/kg	0.05						
	Aldrin	mg/kg	0.05						
	Dieldrin	mg/kg	0.05						
	Aldrin + Dieldrin	mg/kg	0.05						
	b-BHC	mg/kg	0.05						
	chlordane	mg/kg	0.1 : 0.05 (Interlab)						
	d-BHC	mg/kg	0.05						
	DDD	mg/kg	0.05						
	4,4-DDE	mg/kg	0.05						
	DDT	mg/kg	0.05 : 0.2 (Interlab)						
	DDT+DDE+DDD	mg/kg	0.05						
	Endrin ketone	mg/kg	0.05						
	Endosulfan I	mg/kg	0.05						
	Endosulfan II	mg/kg	0.05						
	Endosulfan sulphate	mg/kg	0.05						
	Endrin	mg/kg	0.05						
	Endrin aldehyde	mg/kg	0.05						
	g-BHC (Lindane)	mg/kg	0.05						
	Heptachlor	mg/kg	0.05						
	Heptachlor epoxide	mg/kg	0.05						
	Methoxychlor	mg/kg	0.2						
	Toxaphene	mg/kg	1						
	Organochlorine pesticides EPAVic	mg/kg	0.1						
	Other organochlorine pesticides EPAV	mg/kg	0.1						
OPP	Azinophos methyl	mg/kg	0.2 : 0.05 (Interlab)						
	Bolstar (Sulprofos)	mg/kg	0.2						
	Chlorfenvinphos	mg/kg	0.2 : 0.05 (Interlab)						
	Chlorpyrifos	mg/kg	0.2 : 0.05 (Interlab)						
	Chlorpyrifos-methyl	mg/kg	0.2 : 0.05 (Interlab)						
	Coumaphos	mg/kg	2						
	Demeton-O	mg/kg	0.2						
	Demeton-S	mg/kg	0.2						
	Diazinon	mg/kg	0.2 : 0.05 (Interlab)						
	Dichlorvos	mg/kg	0.2 : 0.05 (Interlab)						
	Dimethoate	mg/kg	0.2 : 0.05 (Interlab)						
	Disulfoton	mg/kg	0.2						
	Ethoprop	mg/kg	0.2						
	Ethion	mg/kg	0.2 : 0.05 (Interlab)						
	Fensulfothion	mg/kg	0.2						
	Fenitrothion	mg/kg	0.2						
	Fenthion	mg/kg	0.2 : 0.05 (Interlab)						
	EPN	mg/kg	0.2						
	Malathion	mg/kg	0.2 : 0.05 (Interlab)						
	Merphos	mg/kg	0.2						
	Methyl parathion	mg/kg	0.2						
	Mevinphos (Phosdrin)	mg/kg	0.2						
	Naled (Dibrom)	mg/kg	0.2						
	Monocrotophos	mg/kg	2 : 0.2 (Interlab)						
	Omethoate	mg/kg	2						
	Parathion	mg/kg	0.2						
	Phorate	mg/kg	0.2						
	Pyrazophos	mg/kg	0.2						
	Ronnel	mg/kg	0.2						
	Terbufos	mg/kg	0.2						
	Trichloronate	mg/kg	0.2						
	Tetrachlorvinphos	mg/kg	0.2						
	Pirimiphos-methyl	mg/kg	0.2						
	Tokuthion	mg/kg	0.2						
OCP	Hexachlorobenzene	µg/kg	50						

*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 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratc

Field Duplicates (soil)
Filter: ALL

			SDG	29-Nov-19	ALSE-Sydney 02-Dec-19		29-Nov-19	29-Nov-19	
			Field ID	DS02	QA6	**RPD**	DS02	QA5	**RPD**
			Sampled Date/Time	27/11/2019	27/11/2019		27/11/2019	27/11/2019	
Method_T	**ChemName**	**Units**	**EQL**						
Inorganic	Moisture Content	%	1 : 0.1 (Interlab)	28	27.4	2	28	30	7
	TOC	%	0.1 : 0.5 (Interlab)	0.7	<0.5	33	0.7	0.5	33
Heavy Met	Arsenic	mg/kg	2 : 5 (Interlab)	**21**	**11**	**63**	21	14	40
	Cadmium	mg/kg	0.4 : 1 (Interlab)	<0.4	<1	0	<0.4	<0.4	0
	Chromium (III+VI)	mg/kg	5 : 2 (Interlab)	51	35	37	51	42	19
	Copper	mg/kg	5	23	19	19	23	32	33
	Lead	mg/kg	5	36	24	40	36	53	38
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	5 : 2 (Interlab)	11	7	44	11	12	9
	Zinc	mg/kg	5	38	25	41	38	41	8
al									
Organic	C6-C9	mg/kg	20 : 10 (Interlab)	<20	<10	0	<20	<20	0
TPH	C10-C14	mg/kg	20 : 50 (Interlab)	<20	<50	0	<20	<20	0
	C15-C28	mg/kg	50 : 100 (Interlab)	<50	<100	0	<50	<50	0
	C29-C36	mg/kg	50 : 100 (Interlab)	<50	<100	0	<50	<50	0
	C10-C36 (Sum of total)	mg/kg	50	<50	<50	0	<50	<50	0
Organic	C6-C10	mg/kg	20 : 10 (Interlab)	<20	<10	0	<20	<20	0
	>C6-C10 less BTEX (F1)	mg/kg	20 : 10 (Interlab)	<20	<10	0	<20	<20	0
	C10-C16	mg/kg	50	<50	<50	0	<50	<50	0
	>C10-C16 less Naphthalene (F2)	mg/kg	50	<50	<50	0	<50	<50	0
	C16-C34	mg/kg	100	<100	<100	0	<100	<100	0
	C34-C40	mg/kg	100	<100	<100	0	<100	<100	0
	>C10 - C40 (Sum of total)	mg/kg	100 : 50 (Interlab)	<100	<50	0	<100	<100	0
Volatile	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
	Ethylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.5	0	<0.1	<0.1	0
	Xylene (m & p)	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.5	0	<0.2	<0.2	0
	Xylene (o)	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.5	0	<0.1	<0.1	0
	Xylene Total	mg/kg	0.3 : 0.5 (Interlab)	<0.3	<0.5	0	<0.3	<0.3	0
Organic	Naphthalene	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
PAH	Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a) pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	0.6	0.6	0	0.6	0.6	0
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	0	1.2	1.2	0
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Chrysene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Naphthalene	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	PAHs (Sum of total)	mg/kg	0.5	<0.5			<0.5	<0.5	0
SVOC	2,4,5-trichlorophenol	mg/kg	1 : 0.5 (Interlab)						
	2,4,6-trichlorophenol	mg/kg	1 : 0.5 (Interlab)						
	2,4-dichlorophenol	mg/kg	0.5						
	2,4-dimethylphenol	mg/kg	0.5						
	2,4-dinitrophenol	mg/kg	5						
	2,6-dichlorophenol	mg/kg	0.5						
	2-chlorophenol	mg/kg	0.5						
	2-nitrophenol	mg/kg	1 : 0.5 (Interlab)						
	2-methylphenol	mg/kg	0.2 : 0.5 (Interlab)						
	3&4-Methylphenol (m&p-cresol)	mg/kg	0.4 : 1 (Interlab)						
	4,6-Dinitro-2-methylphenol	mg/kg	5						
	4,6-Dinitro-o-cyclohexyl phenol	mg/kg	20						
	4-chloro-3-methylphenol	mg/kg	1 : 0.5 (Interlab)						
	4-nitrophenol	mg/kg	5						
	Dinoseb	mg/kg	20						
	Pentachlorophenol	mg/kg	1 : 2 (Interlab)						
	Phenol	mg/kg	0.5						
	tetrachlorophenols	mg/kg	10						
	Phenols (Total Halogenated)	mg/kg	1						
	Phenols (Total Non Halogenated)	mg/kg	20						
PCB	Arochlor 1016	mg/kg	0.5	<0.5			<0.5	<0.5	0
	Arochlor 1221	mg/kg	0.1	<0.1			<0.1	<0.1	0
	Arochlor 1232	mg/kg	0.5	<0.5			<0.5	<0.5	0

Field Duplicates (soil)
Filter: ALL

			SDG	29-Nov-19	ALSE-Sydney 02-Dec-19		29-Nov-19	29-Nov-19	
			Field ID	DS02	QA6	**RPD**	DS02	QA5	**RPD**
			Sampled Date/Time	27/11/2019	27/11/2019		27/11/2019	27/11/2019	
	Arochlor 1242	mg/kg	0.5	<0.5			<0.5	<0.5	0
	Arochlor 1248	mg/kg	0.5	<0.5			<0.5	<0.5	0
	Arochlor 1254	mg/kg	0.5	<0.5			<0.5	<0.5	0
	Arochlor 1260	mg/kg	0.5	<0.5			<0.5	<0.5	0
	PCBs (Sum of total)	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.1	0	<0.5	<0.5	0
OCP	a-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	b-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	chlordane	mg/kg	0.1 : 0.05 (Interlab)	<0.1	<0.05	0	<0.1	<0.1	0
	d-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	4,4-DDE	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	DDT	mg/kg	0.05 : 0.2 (Interlab)	<0.05	<0.2	0	<0.05	<0.05	0
	DDT+DDE+DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan I	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan II	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan sulphate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Toxaphene	mg/kg	1	<1			<1	<1	0
	Organochlorine pesticides EPAVic	mg/kg	0.1	<0.2			<0.2	<0.2	0
	Other organochlorine pesticides EPAV	mg/kg	0.1	<0.2			<0.2	<0.2	0
OPP	Azinophos methyl	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	Bolstar (Sulprofos)	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Chlorfenvinphos	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	Chlorpyrifos	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	Chlorpyrifos-methyl	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	Coumaphos	mg/kg	2	<2			<2	<2	0
	Demeton-O	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Demeton-S	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Diazinon	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	Dichlorvos	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	Dimethoate	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	Disulfoton	mg/kg	0.2	0.2			0.2	<0.2	0
	Ethoprop	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Ethion	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	Fensulfothion	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Fenitrothion	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Fenthion	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	EPN	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Malathion	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.05	0	<0.2	<0.2	0
	Merphos	mg/kg	0.2	<1			<1	<0.4	0
	Methyl parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Mevinphos (Phosdrin)	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Naled (Dibrom)	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Monocrotophos	mg/kg	2 : 0.2 (Interlab)	<2	<0.2	0	<2	<2	0
	Omethoate	mg/kg	2	<2			<2	<2	0
	Parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Phorate	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Pyrazophos	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Ronnel	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Terbufos	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Trichloronate	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Tetrachlorvinphos	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Pirimiphos-methyl	mg/kg	0.2	<0.2			<0.2	<0.2	0
	Tokuthion	mg/kg	0.2	<0.2			<0.2	<0.2	0
OCP	Hexachlorobenzene	µg/kg	50	<50	<50	0	<50	<50	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 EQ
***Interlab Duplicates are matched on a per compound basis as methods vary between laboory

Field Duplicates (soil)
Filter: ALL

	SDG	21-Oct-19	14-Oct-19		21-Oct-19	ALSE-Sydney 15-Oct-19			
	Field ID	MW02_2.0	QA001_TK	**RPD**	MW02_2.0	QA002_TK	**RPD**		
	Sampled Date/Time	8/10/2019	8/10/2019		8/10/2019	8/10/2019			
Method_T	**ChemName**	**Units**	**EQL**						
Inorganic	Moisture Content	%	1 : 0.1 (Interlab)	16	16	0	16	16.5	3
	TOC	%	0.1 : 0.5 (Interlab)						
Heavy Met	Arsenic	mg/kg	2 : 5 (Interlab)	18	10	57	18	10	57
	Cadmium	mg/kg	0.4 : 1 (Interlab)	<0.4	<0.4	0	<0.4	<1	0
	Chromium (III+VI)	mg/kg	5 : 2 (Interlab)	50	24	70	50	33	41
	Copper	mg/kg	5	29	17	52	29	22	27
	Lead	mg/kg	5	42	24	55	42	29	37
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	5 : 2 (Interlab)	19	11	53	19	14	30
	Zinc	mg/kg	5	55	33	50	55	35	44
al									
Organic	C6-C9	mg/kg	20 : 10 (Interlab)	<20	<20	0	<20	<10	0
TPH	C10-C14	mg/kg	20 : 50 (Interlab)	<20	<20	0	<20	<50	0
	C15-C28	mg/kg	50 : 100 (Interlab)	<50	<50	0	<50	<100	0
	C29-C36	mg/kg	50 : 100 (Interlab)	<50	<50	0	<50	<100	0
	C10-C36 (Sum of total)	mg/kg	50	<50	<50	0	<50	<50	0
Organic	C6-C10	mg/kg	20 : 10 (Interlab)	<20	<20	0	<20	<10	0
	>C6-C10 less BTEX (F1)	mg/kg	20 : 10 (Interlab)	<20	<20	0	<20	<10	0
	C10-C16	mg/kg	50	<50	<50	0	<50	<50	0
	>C10-C16 less Naphthalene (F2)	mg/kg	50	<50	<50	0	<50	<50	0
	C16-C34	mg/kg	100	<100	<100	0	<100	<100	0
	C34-C40	mg/kg	100	<100	<100	0	<100	<100	0
	>C10 - C40 (Sum of total)	mg/kg	100 : 50 (Interlab)	<100	<100	0	<100	<50	0
Volatile	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
	Ethylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Xylene (m & p)	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.5	0
	Xylene (o)	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Xylene Total	mg/kg	0.3 : 0.5 (Interlab)	<0.3	<0.3	0	<0.3	<0.5	0
Organic	Naphthalene	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
PAH	Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5	0.6	<0.5	18	0.6	<0.5	18
	Benz(a)anthracene	mg/kg	0.5	**1.6**	**<0.5**	**105**	**1.6**	**<0.5**	**105**
	Benzo(a) pyrene	mg/kg	0.5	**1.5**	**<0.5**	**100**	**1.5**	**<0.5**	**100**
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	**2.6**	**<0.5**	**135**	**2.6**	**<0.5**	**135**
	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	**2.6**	**0.6**	**125**	**2.6**	**0.6**	**125**
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	2.6	1.2	74	2.6	1.2	74
	Benzo(g,h,i)perylene	mg/kg	0.5	0.9	<0.5	57	0.9	<0.5	57
	Benzo(b+j)fluoranthene	mg/kg	0.5	1	<0.5	67	1	<0.5	67
	Benzo(k)fluoranthene	mg/kg	0.5	**1.4**	**<0.5**	**95**	**1.4**	**<0.5**	**95**
	Chrysene	mg/kg	0.5	**1.3**	**<0.5**	**89**	**1.3**	**<0.5**	**89**
	Dibenz(a,h)anthracene	mg/kg	0.5	0.6	<0.5	18	0.6	<0.5	18
	Fluoranthene	mg/kg	0.5	**3**	**<0.5**	**143**	**3**	**<0.5**	**143**
	Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	0.8	<0.5	46	0.8	<0.5	46
	Naphthalene	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5	**1.9**	**<0.5**	**117**	**1.9**	**<0.5**	**117**
	Pyrene	mg/kg	0.5	**2.9**	**<0.5**	**141**	**2.9**	**<0.5**	**141**
	PAHs (Sum of total)	mg/kg	0.5	**17.5**	**<0.5**	**189**	17.5		
SVOC	2,4,5-trichlorophenol	mg/kg	1 : 0.5 (Interlab)						
	2,4,6-trichlorophenol	mg/kg	1 : 0.5 (Interlab)						
	2,4-dichlorophenol	mg/kg	0.5						
	2,4-dimethylphenol	mg/kg	0.5						
	2,4-dinitrophenol	mg/kg	5						
	2,6-dichlorophenol	mg/kg	0.5						
	2-chlorophenol	mg/kg	0.5						
	2-nitrophenol	mg/kg	1 : 0.5 (Interlab)						
	2-methylphenol	mg/kg	0.2 : 0.5 (Interlab)						
	3&4-Methylphenol (m&p-cresol)	mg/kg	0.4 : 1 (Interlab)						
	4,6-Dinitro-2-methylphenol	mg/kg	5						
	4,6-Dinitro-o-cyclohexyl phenol	mg/kg	20						
	4-chloro-3-methylphenol	mg/kg	1 : 0.5 (Interlab)						
	4-nitrophenol	mg/kg	5						
	Dinoseb	mg/kg	20						
	Pentachlorophenol	mg/kg	1 : 2 (Interlab)						
	Phenol	mg/kg	0.5						
	tetrachlorophenols	mg/kg	10						
	Phenols (Total Halogenated)	mg/kg	1						
	Phenols (Total Non Halogenated)	mg/kg	20						
PCB	Arochlor 1016	mg/kg	0.5						
	Arochlor 1221	mg/kg	0.1						
	Arochlor 1232	mg/kg	0.5						

Field Duplicates (soil)
Filter: ALL

			SDG	21-Oct-19	14-Oct-19		21-Oct-19	ALSE-Sydney 15-Oct-19	
			Field ID	MW02_2.0	QA001_TK	**RPD**	MW02_2.0	QA002_TK	**RPD**
			Sampled Date/Time	8/10/2019	8/10/2019		8/10/2019	8/10/2019	
	Arochlor 1242	mg/kg	0.5						
	Arochlor 1248	mg/kg	0.5						
	Arochlor 1254	mg/kg	0.5						
	Arochlor 1260	mg/kg	0.5						
	PCBs (Sum of total)	mg/kg	0.5 : 0.1 (Interlab)						
OCP	a-BHC	mg/kg	0.05						
	Aldrin	mg/kg	0.05						
	Dieldrin	mg/kg	0.05						
	Aldrin + Dieldrin	mg/kg	0.05						
	b-BHC	mg/kg	0.05						
	chlordane	mg/kg	0.1 : 0.05 (Interlab)						
	d-BHC	mg/kg	0.05						
	DDD	mg/kg	0.05						
	4,4-DDE	mg/kg	0.05						
	DDT	mg/kg	0.05 : 0.2 (Interlab)						
	DDT+DDE+DDD	mg/kg	0.05						
	Endrin ketone	mg/kg	0.05						
	Endosulfan I	mg/kg	0.05						
	Endosulfan II	mg/kg	0.05						
	Endosulfan sulphate	mg/kg	0.05						
	Endrin	mg/kg	0.05						
	Endrin aldehyde	mg/kg	0.05						
	g-BHC (Lindane)	mg/kg	0.05						
	Heptachlor	mg/kg	0.05						
	Heptachlor epoxide	mg/kg	0.05						
	Methoxychlor	mg/kg	0.2						
	Toxaphene	mg/kg	1						
	Organochlorine pesticides EPAVic	mg/kg	0.1						
	Other organochlorine pesticides EPAV	mg/kg	0.1						
OPP	Azinophos methyl	mg/kg	0.2 : 0.05 (Interlab)						
	Bolstar (Sulprofos)	mg/kg	0.2						
	Chlorfenvinphos	mg/kg	0.2 : 0.05 (Interlab)						
	Chlorpyrifos	mg/kg	0.2 : 0.05 (Interlab)						
	Chlorpyrifos-methyl	mg/kg	0.2 : 0.05 (Interlab)						
	Coumaphos	mg/kg	2						
	Demeton-O	mg/kg	0.2						
	Demeton-S	mg/kg	0.2						
	Diazinon	mg/kg	0.2 : 0.05 (Interlab)						
	Dichlorvos	mg/kg	0.2 : 0.05 (Interlab)						
	Dimethoate	mg/kg	0.2 : 0.05 (Interlab)						
	Disulfoton	mg/kg	0.2						
	Ethoprop	mg/kg	0.2						
	Ethion	mg/kg	0.2 : 0.05 (Interlab)						
	Fensulfothion	mg/kg	0.2						
	Fenitrothion	mg/kg	0.2						
	Fenthion	mg/kg	0.2 : 0.05 (Interlab)						
	EPN	mg/kg	0.2						
	Malathion	mg/kg	0.2 : 0.05 (Interlab)						
	Merphos	mg/kg	0.2						
	Methyl parathion	mg/kg	0.2						
	Mevinphos (Phosdrin)	mg/kg	0.2						
	Naled (Dibrom)	mg/kg	0.2						
	Monocrotophos	mg/kg	2 : 0.2 (Interlab)						
	Omethoate	mg/kg	2						
	Parathion	mg/kg	0.2						
	Phorate	mg/kg	0.2						
	Pyrazophos	mg/kg	0.2						
	Ronnel	mg/kg	0.2						
	Terbufos	mg/kg	0.2						
	Trichloronate	mg/kg	0.2						
	Tetrachlorvinphos	mg/kg	0.2						
	Pirimiphos-methyl	mg/kg	0.2						
	Tokuthion	mg/kg	0.2						
OCP	Hexachlorobenzene	µg/kg	50						

*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 EQ
***Interlab Duplicates are matched on a per compound basis as methods vary between labor

Field Duplicates (soil)
Filter: ALL

	SDG	14-Oct-19	14-Oct-19		14-Oct-19	ALSE-Sydney 15-Oct-19			
	Field ID	TP104_0.2	QA1	**RPD**	TP104_0.2	QA2	**RPD**		
	Sampled Date/Time	8/10/2019	8/10/2019		8/10/2019	8/10/2019			
Method_T	**ChemName**	**Units**	**EQL**						
Inorganic	Moisture Content	%	1 : 0.1 (Interlab)	10	10	0	10	10.2	2
	TOC	%	0.1 : 0.5 (Interlab)						
Heavy Met	Arsenic	mg/kg	2 : 5 (Interlab)	4.1	5.3	26	4.1	<5	0
	Cadmium	mg/kg	0.4 : 1 (Interlab)	<0.4	<0.4	0	<0.4	<1	0
	Chromium (III+VI)	mg/kg	5 : 2 (Interlab)	18	18	0	18	29	47
	Copper	mg/kg	5	28	35	22	28	35	22
	Lead	mg/kg	5	11	14	24	11	13	17
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	5 : 2 (Interlab)	18	20	11	18	20	11
	Zinc	mg/kg	5	54	71	27	54	62	14
al									
Organic	C6-C9	mg/kg	20 : 10 (Interlab)	<20	<20	0	<20	<10	0
TPH	C10-C14	mg/kg	20 : 50 (Interlab)	<20	29	37	<20	<50	0
	C15-C28	mg/kg	50 : 100 (Interlab)	120	91	27	120	140	15
	C29-C36	mg/kg	50 : 100 (Interlab)	160	110	37	160	<100	46
	C10-C36 (Sum of total)	mg/kg	50	280	230	20	280	140	67
Organic	C6-C10	mg/kg	20 : 10 (Interlab)	<20	<20	0	<20	<10	0
	>C6-C10 less BTEX (F1)	mg/kg	20 : 10 (Interlab)	<20	<20	0	<20	<10	0
	C10-C16	mg/kg	50	<50	<50	0	<50	<50	0
	>C10-C16 less Naphthalene (F2)	mg/kg	50	<50	<50	0	<50	<50	0
	C16-C34	mg/kg	100	220	160	32	220	160	32
	C34-C40	mg/kg	100	180	130	32	180	<100	57
	>C10 - C40 (Sum of total)	mg/kg	100 : 50 (Interlab)	400	290	32	**400**	**160**	**86**
Volatile	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
	Ethylbenzene	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Xylene (m & p)	mg/kg	0.2 : 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.5	0
	Xylene (o)	mg/kg	0.1 : 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Xylene Total	mg/kg	0.3 : 0.5 (Interlab)	<0.3	<0.3	0	<0.3	<0.5	0
Organic	Naphthalene	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
PAH	Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benz(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a) pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ calc (Zero)	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ calc (Half)	mg/kg	0.5	0.6	0.6	0	0.6	0.6	0
	Benzo(a)pyrene TEQ (LOR)	mg/kg	0.5	1.2	1.2	0	1.2	1.2	0
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(b+j)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Chrysene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Naphthalene	mg/kg	0.5 : 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	Pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0
	PAHs (Sum of total)	mg/kg	0.5	<0.5	<0.5	0	<0.5		
SVOC	2,4,5-trichlorophenol	mg/kg	1 : 0.5 (Interlab)						
	2,4,6-trichlorophenol	mg/kg	1 : 0.5 (Interlab)						
	2,4-dichlorophenol	mg/kg	0.5						
	2,4-dimethylphenol	mg/kg	0.5						
	2,4-dinitrophenol	mg/kg	5						
	2,6-dichlorophenol	mg/kg	0.5						
	2-chlorophenol	mg/kg	0.5						
	2-nitrophenol	mg/kg	1 : 0.5 (Interlab)						
	2-methylphenol	mg/kg	0.2 : 0.5 (Interlab)						
	3&4-Methylphenol (m&p-cresol)	mg/kg	0.4 : 1 (Interlab)						
	4,6-Dinitro-2-methylphenol	mg/kg	5						
	4,6-Dinitro-o-cyclohexyl phenol	mg/kg	20						
	4-chloro-3-methylphenol	mg/kg	1 : 0.5 (Interlab)						
	4-nitrophenol	mg/kg	5						
	Dinoseb	mg/kg	20						
	Pentachlorophenol	mg/kg	1 : 2 (Interlab)						
	Phenol	mg/kg	0.5						
	tetrachlorophenols	mg/kg	10						
	Phenols (Total Halogenated)	mg/kg	1						
	Phenols (Total Non Halogenated)	mg/kg	20						
PCB	Arochlor 1016	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Arochlor 1221	mg/kg	0.1	<0.1	<0.1	0	<0.1		
	Arochlor 1232	mg/kg	0.5	<0.5	<0.5	0	<0.5		

Field Duplicates (soil)
Filter: ALL

			SDG	14-Oct-19	14-Oct-19		14-Oct-19	ALSE-Sydney 15-Oct-19	
			Field ID	TP104_0.2	QA1	**RPD**	TP104_0.2	QA2	**RPD**
			Sampled Date/Time	8/10/2019	8/10/2019		8/10/2019	8/10/2019	
	Arochlor 1242	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Arochlor 1248	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Arochlor 1254	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	Arochlor 1260	mg/kg	0.5	<0.5	<0.5	0	<0.5		
	PCBs (Sum of total)	mg/kg	0.5 : 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.1	0
OCP	a-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	b-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	chlordane	mg/kg	0.1 : 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0
	d-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	4,4-DDE	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	DDT	mg/kg	0.05 : 0.2 (Interlab)	<0.05	<0.05	0	<0.05	<0.2	0
	DDT+DDE+DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan I	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan II	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan sulphate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Toxaphene	mg/kg	1	<1	<1	0	<1		
	Organochlorine pesticides EPAVic	mg/kg	0.1	<0.2	<0.2	0	<0.2		
	Other organochlorine pesticides EPAV	mg/kg	0.1	<0.2	<0.2	0	<0.2		
OPP	Azinophos methyl	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Bolstar (Sulprofos)	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Chlorfenvinphos	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Chlorpyrifos	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Chlorpyrifos-methyl	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Coumaphos	mg/kg	2	<2	<2	0	<2		
	Demeton-O	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Demeton-S	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Diazinon	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Dichlorvos	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Dimethoate	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Disulfoton	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Ethoprop	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Ethion	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Fensulfothion	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Fenitrothion	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Fenthion	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	EPN	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Malathion	mg/kg	0.2 : 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0
	Merphos	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Methyl parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Mevinphos (Phosdrin)	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Naled (Dibrom)	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Monocrotophos	mg/kg	2 : 0.2 (Interlab)	<2	<2	0	<2	<0.2	0
	Omethoate	mg/kg	2	<2	<2	0	<2		
	Parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0
	Phorate	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Pyrazophos	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Ronnel	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Terbufos	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Trichloronate	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Tetrachlorvinphos	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Pirimiphos-methyl	mg/kg	0.2	<0.2	<0.2	0	<0.2		
	Tokuthion	mg/kg	0.2	<0.2	<0.2	0	<0.2		
OCP	Hexachlorobenzene	µg/kg	50	<50	<50	0	<50	<50	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 EQ
***Interlab Duplicates are matched on a per compound basis as methods vary between labor

Field Duplicates (water)
Filter: ALL

			SDG	29-Nov-19	29-Nov-19		17-Oct-19	17-Oct-19		17-Oct-19
			Field ID	MW02	QA3	RPD	MW06	QA1	RPD	MW06
			Sampled Date/Time	27/11/2019	27/11/2019		16/10/2019	16/10/2019		16/10/2019
Method_T	ChemName	Units	EQL							
SVOC	3,3-Dichlorobenzidine	µg/l	5 : 2 (Interlab)	<5	<5	0				
	4-(dimethylamino) azobenzene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	4-bromophenyl phenyl ether	µg/l	5 : 2 (Interlab)	<5	<5	0				
	4-chlorophenyl phenyl ether	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Acetophenone	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Bis(2-chloroethoxy) methane	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Bis(2-chloroisopropyl) ether	µg/l	5	<5	<5	0				
	Dibenzofuran	µg/l	5 : 2 (Interlab)	<5	<5	0				
	N-nitrosopiperidine	µg/l	5 : 2 (Interlab)	<5	<5	0				
Heavy Met	Arsenic (Filtered)	µg/l	1				3			3
	Cadmium (Filtered)	µg/l	0.2 : 0.1 (Interlab)				<0.2			<0.2
	Chromium (III+VI) (Filtered)	µg/l	1				<1			<1
	Copper (Filtered)	µg/l	1				<1			<1
	Lead (Filtered)	µg/l	1				<1			<1
	Mercury (Filtered)	µg/l	0.1				<0.1			<0.1
	Nickel (Filtered)	µg/l	1				2			2
	Zinc (Filtered)	µg/l	5				47			47
al										
Organic	C6-C9	µg/l	20				<20	<20	0	<20
TPH	C10-C14	µg/l	50				<50	<50	0	<50
	C15-C28	µg/l	100				<100	<100	0	<100
	C29-C36	µg/l	100 : 50 (Interlab)				<100	<100	0	<100
	C10-C36 (Sum of total)	µg/l	100 : 50 (Interlab)				<100	<100	0	<100
Organic	C6-C10	µg/l	20				<20	<20	0	<20
	>C6-C10 less BTEX (F1)	µg/l	20				<20	<20	0	<20
	C10-C16	µg/l	50 : 100 (Interlab)				<50	<50	0	<50
	>C10-C16 less Naphthalene (F2)	µg/l	50 : 100 (Interlab)				<50	<50	0	<50
	C16-C34	µg/l	100				<100	<100	0	<100
	C34-C40	µg/l	100				<100	<100	0	<100
	>C10 - C40 (Sum of total)	µg/l	100				<100	<100	0	<100
Volatile	Benzene	µg/l	1				<1	<1	0	<1
	Toluene	µg/l	1 : 2 (Interlab)				<1	<1	0	<1
	Ethylbenzene	µg/l	1 : 2 (Interlab)				<1	<1	0	<1
	Xylene (m & p)	µg/l	2				<2	<2	0	<2
	Xylene (o)	µg/l	1 : 2 (Interlab)				<1	<1	0	<1
	Xylene Total	µg/l	3 : 2 (Interlab)				<3	<3	0	<3
Organic	Naphthalene	µg/l	10 : 5 (Interlab)				<10	<10	0	<10
PAH	Acenaphthene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Acenaphthylene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Anthracene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Benz(a)anthracene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Benzo(a) pyrene	µg/l	0.01 : 0.05 (Interlab)				<0.01	<0.01	0	<0.01
	Benzo(g,h,i)perylene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Benzo(b+j)fluoranthene	ug/L	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Benzo(k)fluoranthene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Chrysene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Dibenz(a,h)anthracene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Fluoranthene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Fluorene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Indeno(1,2,3-c,d)pyrene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Naphthalene	µg/l	0.01 : 5 (Interlab)				<0.01	<0.01	0	<0.01
	Phenanthrene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	Pyrene	µg/l	0.01 : 0.1 (Interlab)				<0.01	<0.01	0	<0.01
	PAHs (Sum of total)	µg/l	0.01 : 0.05 (Interlab)				<0.01	<0.01	0	<0.01
SVOC	1-Chloronaphthalene	µg/l	5	<5	<5	0				
	2-chloronaphthalene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	2-methylnaphthalene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	3-methylcholanthrene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	7,12-dimethylbenz(a)anthracene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Acenaphthene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Acenaphthylene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Anthracene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Benz(a)anthracene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Benzo(a) pyrene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Benzo(g,h,i)perylene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Benzo(b+j)fluoranthene	ug/L	1	<1	<1	0				
	Benzo(k)fluoranthene	µg/l	1	<1	<1	0				
	Chrysene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Dibenz(a,h)anthracene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Fluoranthene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Fluorene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Indeno(1,2,3-c,d)pyrene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Naphthalene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	Phenanthrene	µg/l	1 : 2 (Interlab)	<1	<1	0				

Field Duplicates (water)
Filter: ALL

			SDG	29-Nov-19	29-Nov-19		17-Oct-19	17-Oct-19		17-Oct-19
			Field ID	MW02	QA3	**RPD**	MW06	QA1	**RPD**	MW06
			Sampled Date/Time	27/11/2019	27/11/2019		16/10/2019	16/10/2019		16/10/2019
	Pyrene	µg/l	1 : 2 (Interlab)	<1	<1	0				
	2,3,4,6-tetrachlorophenol	µg/l	10	<10	<10	0				
	2,4,5-trichlorophenol	µg/l	10 : 2 (Interlab)	<10	<10	0				
	2,4,6-trichlorophenol	µg/l	10 : 2 (Interlab)	<10	<10	0				
	2,4-dichlorophenol	µg/l	3 : 2 (Interlab)	<3	<3	0				
	2,4-dimethylphenol	µg/l	3 : 2 (Interlab)	<3	<3	0				
	2,4-dinitrophenol	mg/l	0.03	<0.03	<0.03	0				
	2,6-dichlorophenol	µg/l	3 : 2 (Interlab)	<3	<3	0				
	2-chlorophenol	µg/l	3 : 2 (Interlab)	<3	<3	0				
	2-nitrophenol	µg/l	10 : 2 (Interlab)	<10	<10	0				
	2-methylphenol	µg/l	3 : 2 (Interlab)	<3	<3	0				
	3&4-Methylphenol (m&p-cresol)	µg/l	6 : 4 (Interlab)	<6	<6	0				
	4,6-Dinitro-2-methylphenol	µg/l	30	<30	<30	0				
	4-chloro-3-methylphenol	µg/l	10 : 2 (Interlab)	<10	<10	0				
	4-nitrophenol	µg/l	30	<30	<30	0				
	Pentachlorophenol	µg/l	10 : 4 (Interlab)	<10	<10	0				
	Phenol	µg/l	3 : 2 (Interlab)	<3	<3	0				
	Benzyl chloride	ug/L	5	<5	<5	0				
	Hexachlorocyclopentadiene	µg/l	5 : 10 (Interlab)	<5	<5	0				
	Hexachloroethane	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Hexachlorobutadiene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	a-BHC	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Aldrin	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Dieldrin	µg/l	5 : 2 (Interlab)	<5	<5	0				
	b-BHC	µg/l	5 : 2 (Interlab)	<5	<5	0				
	d-BHC	µg/l	5 : 2 (Interlab)	<5	<5	0				
	DDD	µg/l	5 : 2 (Interlab)	<5	<5	0				
	4,4-DDE	µg/l	5 : 2 (Interlab)	<5	<5	0				
	DDT	µg/l	5 : 4 (Interlab)	<5	<5	0				
	Endrin ketone	µg/l	5	<5	<5	0				
	Endosulfan I	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Endosulfan II	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Endosulfan sulphate	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Endrin	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Endrin aldehyde	µg/l	5	<5	<5	0				
	g-BHC (Lindane)	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Heptachlor	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Heptachlor epoxide	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Methoxychlor	µg/l	5	<5	<5	0				
	Pronamide	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Trifluralin	ug/L	5	<5	<5	0				
	1,2,3,4-tetrachlorobenzene	ug/L	5	<5	<5	0				
	1,2,3-trichlorobenzene	µg/l	5	<5	<5	0				
	1,2,3,5-Tetrachlorobenzene	ug/L	5	<5	<5	0				
	1,2,4,5-tetrachlorobenzene	µg/l	5	<5	<5	0				
	1,2,4-trichlorobenzene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	1,2-dichlorobenzene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	1,3-dichlorobenzene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	1,3,5-Trichlorobenzene	µg/l	5	<5	<5	0				
	1,4-dichlorobenzene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Hexachlorobenzene	µg/l	5 : 4 (Interlab)	<5	<5	0				
	Pentachlorobenzene	µg/l	5 : 2 (Interlab)	<5	<5	0				
	2,4-Dinitrotoluene	µg/l	5 : 4 (Interlab)	<5	<5	0				
	2,6-dinitrotoluene	µg/l	5 : 4 (Interlab)	<5	<5	0				
	Nitrobenzene	µg/l	50 : 2 (Interlab)	<50	<50	0				
	Bis(2-ethylhexyl) phthalate	µg/l	5 : 10 (Interlab)	<5	7	33				
	Butyl benzyl phthalate	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Diethylphthalate	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Dimethyl phthalate	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Di-n-butyl phthalate	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Di-n-octyl phthalate	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Dibenz(a.j)acridine	µg/l	5	<5	<5	0				
	N-nitrosodi-n-butylamine	µg/l	5 : 2 (Interlab)	<5	<5	0				
	N-nitrosodi-n-propylamine	µg/l	5 : 2 (Interlab)	<5	<5	0				
	1-naphthylamine	µg/l	5 : 2 (Interlab)	<5	<5	0				
	2-naphthylamine	µg/l	5	<5	<5	0				
	Diphenylamine	µg/l	5	<5	<5	0				
	2-nitroaniline	µg/l	5 : 4 (Interlab)	<5	<5	0				
	Aniline	µg/l	5 : 2 (Interlab)	<5	<5	0				
	2-Picoline	µg/l	5 : 2 (Interlab)	<5	<5	0				
	4-aminobiphenyl	µg/l	5 : 2 (Interlab)	<5	<5	0				
	Pentachloronitrobenzene	µg/l	5 : 2 (Interlab)	<5	<5	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 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary lab

Field Duplicates (water)
Filter: ALL

			SDG	ALSE-Sydney 18-Oct-19		29-Nov-19	ALSE-Sydney 02-Dec-19	
			Field ID	QA2	**RPD**	MW02	QA4	**RPD**
			Sampled Date/Time	16/10/2019		27/11/2019	27/11/2019	
Method_T	**ChemName**	**Units**	**EQL**					
SVOC	3,3-Dichlorobenzidine	µg/l	5 : 2 (Interlab)			<5	<2	0
	4-(dimethylamino) azobenzene	µg/l	5 : 2 (Interlab)			<5	<2	0
	4-bromophenyl phenyl ether	µg/l	5 : 2 (Interlab)			<5	<2	0
	4-chlorophenyl phenyl ether	µg/l	5 : 2 (Interlab)			<5	<2	0
	Acetophenone	µg/l	5 : 2 (Interlab)			<5	<2	0
	Bis(2-chloroethoxy) methane	µg/l	5 : 2 (Interlab)			<5	<2	0
	Bis(2-chloroisopropyl) ether	µg/l	5			<5		
	Dibenzofuran	µg/l	5 : 2 (Interlab)			<5	<2	0
	N-nitrosopiperidine	µg/l	5 : 2 (Interlab)			<5	<2	0
Heavy Met	Arsenic (Filtered)	µg/l	1	4	29			
	Cadmium (Filtered)	µg/l	0.2 : 0.1 (Interlab)	<0.1	0			
	Chromium (III+VI) (Filtered)	µg/l	1	<1	0			
	Copper (Filtered)	µg/l	1	<1	0			
	Lead (Filtered)	µg/l	1	<1	0			
	Mercury (Filtered)	µg/l	0.1	<0.1	0			
	Nickel (Filtered)	µg/l	1	4	67			
	Zinc (Filtered)	µg/l	5	28	51			
al								
Organic	C6-C9	µg/l	20	<20	0			
TPH	C10-C14	µg/l	50	<50	0			
	C15-C28	µg/l	100	<100	0			
	C29-C36	µg/l	100 : 50 (Interlab)	<50	0			
	C10-C36 (Sum of total)	µg/l	100 : 50 (Interlab)	<50	0			
Organic	C6-C10	µg/l	20	<20	0			
	>C6-C10 less BTEX (F1)	µg/l	20	<20	0			
	C10-C16	µg/l	50 : 100 (Interlab)	<100	0			
	>C10-C16 less Naphthalene (F2)	µg/l	50 : 100 (Interlab)	<100	0			
	C16-C34	µg/l	100	<100	0			
	C34-C40	µg/l	100	<100	0			
	>C10 - C40 (Sum of total)	µg/l	100	<100	0			
Volatile	Benzene	µg/l	1	<1	0			
	Toluene	µg/l	1 : 2 (Interlab)	<2	0			
	Ethylbenzene	µg/l	1 : 2 (Interlab)	<2	0			
	Xylene (m & p)	µg/l	2	<2	0			
	Xylene (o)	µg/l	1 : 2 (Interlab)	<2	0			
	Xylene Total	µg/l	3 : 2 (Interlab)	<2	0			
Organic	Naphthalene	µg/l	10 : 5 (Interlab)	<0.1	0			
PAH	Acenaphthene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Acenaphthylene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Anthracene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Benz(a)anthracene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Benzo(a) pyrene	µg/l	0.01 : 0.05 (Interlab)	<0.05	0			
	Benzo(g,h,i)perylene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Benzo(b+j)fluoranthene	ug/L	0.01 : 0.1 (Interlab)	<0.1	0			
	Benzo(k)fluoranthene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Chrysene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Dibenz(a,h)anthracene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Fluoranthene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Fluorene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Indeno(1,2,3-c,d)pyrene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Naphthalene	µg/l	0.01 : 5 (Interlab)	<0.1	0			
	Phenanthrene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	Pyrene	µg/l	0.01 : 0.1 (Interlab)	<0.1	0			
	PAHs (Sum of total)	µg/l	0.01 : 0.05 (Interlab)	<0.05	0			
SVOC	1-Chloronaphthalene	µg/l	5			<5		
	2-chloronaphthalene	µg/l	5 : 2 (Interlab)			<5	<2	0
	2-methylnaphthalene	µg/l	5 : 2 (Interlab)			<5	<2	0
	3-methylcholanthrene	µg/l	5 : 2 (Interlab)			<5	<2	0
	7,12-dimethylbenz(a)anthracene	µg/l	5 : 2 (Interlab)			<5	<2	0
	Acenaphthene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Acenaphthylene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Anthracene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Benz(a)anthracene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Benzo(a) pyrene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Benzo(g,h,i)perylene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Benzo(b+j)fluoranthene	ug/L	1			<1		
	Benzo(k)fluoranthene	µg/l	1			<1		
	Chrysene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Dibenz(a,h)anthracene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Fluoranthene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Fluorene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Indeno(1,2,3-c,d)pyrene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Naphthalene	µg/l	1 : 2 (Interlab)			<1	<2	0
	Phenanthrene	µg/l	1 : 2 (Interlab)			<1	<2	0

Field Duplicates (water)
Filter: ALL

			SDG	ALSE-Sydney 18-Oct-19		29-Nov-19	ALSE-Sydney 02-Dec-19	
			Field ID	QA2	RPD	MW02	QA4	RPD
			Sampled Date/Time	16/10/2019		27/11/2019	27/11/2019	
	Pyrene	µg/l	1 : 2 (Interlab)			<1	<2	0
	2,3,4,6-tetrachlorophenol	µg/l	10			<10		
	2,4,5-trichlorophenol	µg/l	10 : 2 (Interlab)			<10	<2	0
	2,4,6-trichlorophenol	µg/l	10 : 2 (Interlab)			<10	<2	0
	2,4-dichlorophenol	µg/l	3 : 2 (Interlab)			<3	<2	0
	2,4-dimethylphenol	µg/l	3 : 2 (Interlab)			<3	<2	0
	2,4-dinitrophenol	mg/l	0.03			<0.03		
	2,6-dichlorophenol	µg/l	3 : 2 (Interlab)			<3	<2	0
	2-chlorophenol	µg/l	3 : 2 (Interlab)			<3	<2	0
	2-nitrophenol	µg/l	10 : 2 (Interlab)			<10	<2	0
	2-methylphenol	µg/l	3 : 2 (Interlab)			<3	<2	0
	3&4-Methylphenol (m&p-cresol)	µg/l	6 : 4 (Interlab)			<6	<4	0
	4,6-Dinitro-2-methylphenol	µg/l	30			<30		
	4-chloro-3-methylphenol	µg/l	10 : 2 (Interlab)			<10	<2	0
	4-nitrophenol	µg/l	30			<30		
	Pentachlorophenol	µg/l	10 : 4 (Interlab)			<10	<4	0
	Phenol	µg/l	3 : 2 (Interlab)			<3	<2	0
	Benzyl chloride	ug/L	5			<5		
	Hexachlorocyclopentadiene	µg/l	5 : 10 (Interlab)			<5	<10	0
	Hexachloroethane	µg/l	5 : 2 (Interlab)			<5	<2	0
	Hexachlorobutadiene	µg/l	5 : 2 (Interlab)			<5	<2	0
	a-BHC	µg/l	5 : 2 (Interlab)			<5	<2	0
	Aldrin	µg/l	5 : 2 (Interlab)			<5	<2	0
	Dieldrin	µg/l	5 : 2 (Interlab)			<5	<2	0
	b-BHC	µg/l	5 : 2 (Interlab)			<5	<2	0
	d-BHC	µg/l	5 : 2 (Interlab)			<5	<2	0
	DDD	µg/l	5 : 2 (Interlab)			<5	<2	0
	4,4-DDE	µg/l	5 : 2 (Interlab)			<5	<2	0
	DDT	µg/l	5 : 4 (Interlab)			<5	<4	0
	Endrin ketone	µg/l	5			<5		
	Endosulfan I	µg/l	5 : 2 (Interlab)			<5	<2	0
	Endosulfan II	µg/l	5 : 2 (Interlab)			<5	<2	0
	Endosulfan sulphate	µg/l	5 : 2 (Interlab)			<5	<2	0
	Endrin	µg/l	5 : 2 (Interlab)			<5	<2	0
	Endrin aldehyde	µg/l	5			<5		
	g-BHC (Lindane)	µg/l	5 : 2 (Interlab)			<5	<2	0
	Heptachlor	µg/l	5 : 2 (Interlab)			<5	<2	0
	Heptachlor epoxide	µg/l	5 : 2 (Interlab)			<5	<2	0
	Methoxychlor	µg/l	5			<5		
	Pronamide	µg/l	5 : 2 (Interlab)			<5	<2	0
	Trifluralin	ug/L	5			<5		
	1,2,3,4-tetrachlorobenzene	ug/L	5			<5		
	1,2,3-trichlorobenzene	µg/l	5			<5		
	1,2,3,5-Tetrachlorobenzene	ug/L	5			<5		
	1,2,4,5-tetrachlorobenzene	µg/l	5			<5		
	1,2,4-trichlorobenzene	µg/l	5 : 2 (Interlab)			<5	<2	0
	1,2-dichlorobenzene	µg/l	5 : 2 (Interlab)			<5	<2	0
	1,3-dichlorobenzene	µg/l	5 : 2 (Interlab)			<5	<2	0
	1,3,5-Trichlorobenzene	µg/l	5			<5		
	1,4-dichlorobenzene	µg/l	5 : 2 (Interlab)			<5	<2	0
	Hexachlorobenzene	µg/l	5 : 4 (Interlab)			<5	<4	0
	Pentachlorobenzene	µg/l	5 : 2 (Interlab)			<5	<2	0
	2,4-Dinitrotoluene	µg/l	5 : 4 (Interlab)			<5	<4	0
	2,6-dinitrotoluene	µg/l	5 : 4 (Interlab)			<5	<4	0
	Nitrobenzene	µg/l	50 : 2 (Interlab)			<50	<2	0
	Bis(2-ethylhexyl) phthalate	µg/l	5 : 10 (Interlab)			<5	<10	0
	Butyl benzyl phthalate	µg/l	5 : 2 (Interlab)			<5	<2	0
	Diethylphthalate	µg/l	5 : 2 (Interlab)			<5	<2	0
	Dimethyl phthalate	µg/l	5 : 2 (Interlab)			<5	<2	0
	Di-n-butyl phthalate	µg/l	5 : 2 (Interlab)			<5	<2	0
	Di-n-octyl phthalate	µg/l	5 : 2 (Interlab)			<5	<2	0
	Dibenz(a.j)acridine	µg/l	5			<5		
	N-nitrosodi-n-butylamine	µg/l	5 : 2 (Interlab)			<5	<2	0
	N-nitrosodi-n-propylamine	µg/l	5 : 2 (Interlab)			<5	<2	0
	1-naphthylamine	µg/l	5 : 2 (Interlab)			<5	<2	0
	2-naphthylamine	µg/l	5			<5		
	Diphenylamine	µg/l	5			<5		
	2-nitroaniline	µg/l	5 : 4 (Interlab)			<5	<4	0
	Aniline	µg/l	5 : 2 (Interlab)			<5	<2	0
	2-Picoline	µg/l	5 : 2 (Interlab)			<5	<2	0
	4-aminobiphenyl	µg/l	5 : 2 (Interlab)			<5	<2	0
	Pentachloronitrobenzene	µg/l	5 : 2 (Interlab)			<5	<2	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 E
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratory

APPENDIX I – PHOTOGRAPHS

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 1 **Date: 8/10/2019**

Test Pit 102

Photo 2 **Date: 8/10/2019**

Test Pit 103

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 3 **Date: 8/10/2019**

Test Pit 115

Photo 4 **Date: 8/10/2019**

Test Pit 114 – re-worked natural material from dam excavation.

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 5

Date: 8/10/2019

Test Pit 105

Photo 6

Date: 8/10/2019

Test Pit 109

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 7

Date: 8/10/2019

Test Pit 108

Photo 8

Date: 8/10/2019

Soil from the surface of Test Pit 108

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 9

Date: 8/10/2019

Test Pit 109

Photo 10

Date: 8/10/2019

Test Pit 106

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 11

Date: 8/10/2019

Test Pit 106

Photo 12

Date: 8/10/2019

Test Pit 111

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 13

Date: 8/10/2019

Test Pit 110

Photo 14

Date: 8/10/2019

Test Pit 104 – fill on natural shales

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 15

Date: 8/10/2019

Test Pit 104 – LPG tank still in use for adjacent houses

Photo 16

Date: 8/10/2019

Test Pit 104 – fill used as road base

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 17

Date: 16/10/2019

Monitoring Well 001

Photo 18

Date: 16/10/2019

Monitoring Well 002

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 19

Date: 16/10/2019

Monitoring Well 003

Photo 20

Date: 16/10/2019

Monitoring Well 004

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

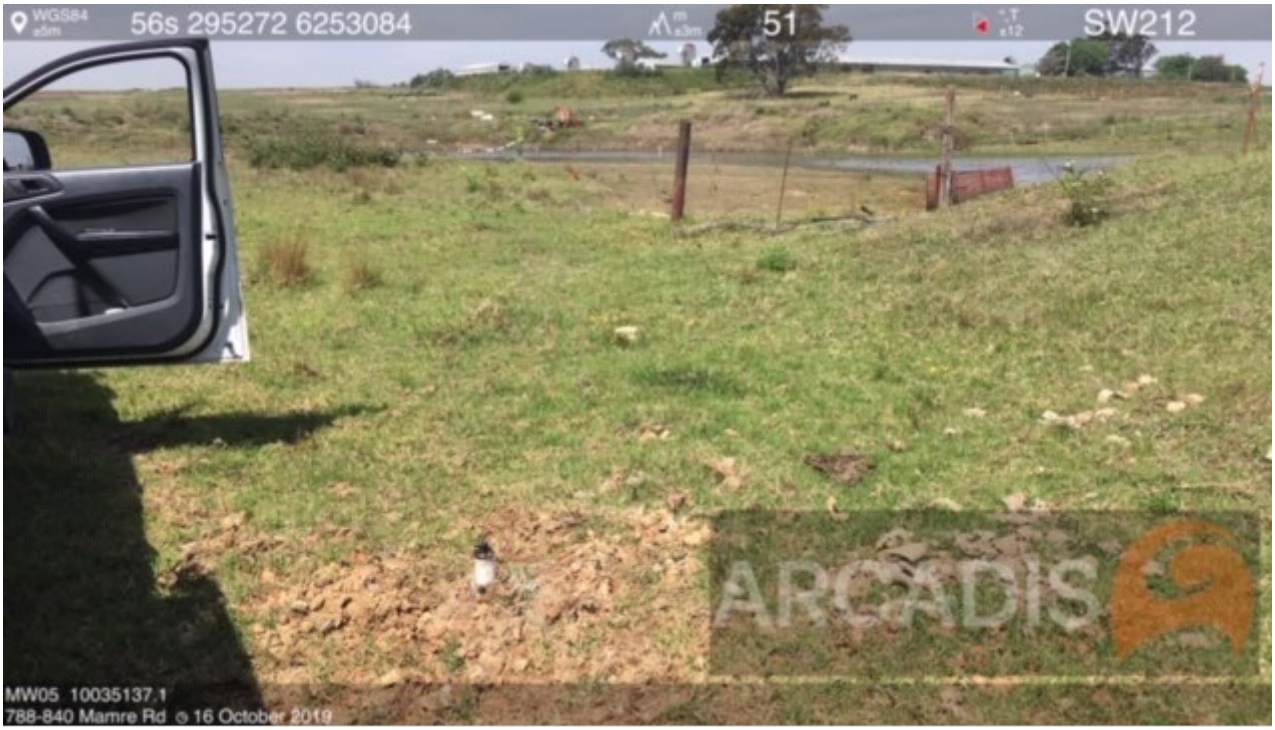

Photo 21

Date: 16/10/2019

Monitoring Well 005

Photo 22

Date: 16/10/2019

Monitoring Well 006

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 23 **Date: 16/10/2019**

Test Pit 104

Photo 24 **Date: 16/10/2019**

Dam 01 – Location of surface water sample

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 25 **Date: 16/10/2019**

Dam 01 – Location of irrigation pump.

Photo 26 **Date: 16/10/2019**

Dam 02 – Location of surface water sample, adjacent pump

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

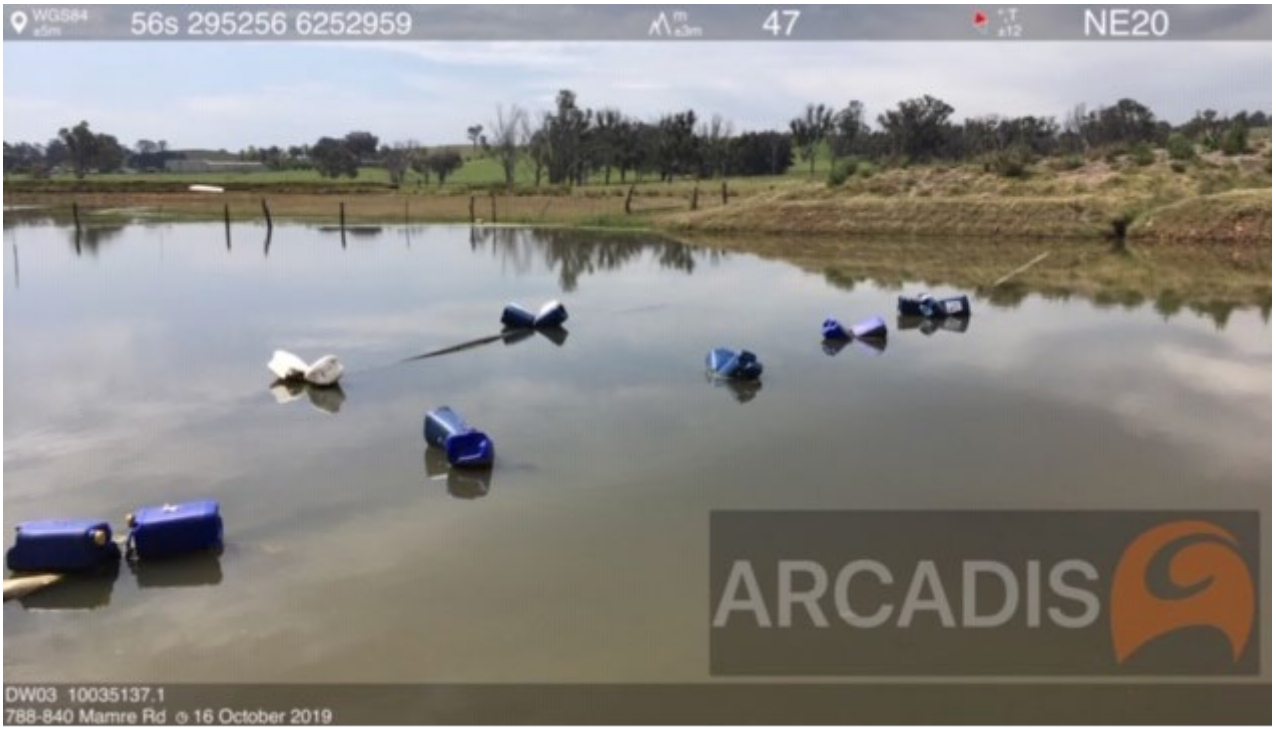

Photo 27 **Date: 16/10/2019**

Dam 03 – Location of surface water sample, adjacent pump

Photo 28 **Date: 16/10/2019**

Dam 03 – Location of surface water sample, adjacent pump

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 29 **Date: 16/10/2019**

Dam 04 – Location of surface water sample

Photo 30 **Date: 16/10/2019**

Dam 05 – Surface water sample taken from the lower ponded area.

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 31

Date: 16/10/2019

Soil Sample SO01 adjacent timber.

Photo 32

Date: 16/10/2019

Soil Sample SO02 adjacent timber.

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 33 **Date: 16/10/2019**

Soil Sample SO03 adjacent timber.

Photo 34 **Date: 16/10/2019**

Soil Sample SO04 adjacent timber.

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 35

Date: 16/10/2019

Soil Sample SO05 adjacent timber.

Photo 36

Date: 16/10/2019

PACM – ASB01– observed next to waste material adjacent to the road.

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 37 **Date: 16/10/2019**

PACM – ASB02– observed next to waste material adjacent to the road.

Photo 38 **Date: 16/10/2019**

PACM – ASB03– observed in waste material.

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 39 **Date: 16/10/2019**

PACM – ASB04– observed next to waste material adjacent to the road.

Photo 40 **Date: 16/10/2019**

Location: Driveway of lot 54 (southern), on route to chicken coops. Road fill walkover for PACM – no PACM observed

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 41 **Date: 16/10/2019**

Location: lot 55, corner of agricultural plots. Road fill walkover for PACM – no PACM observed

Photo 42 **Date: 16/10/2019**

Location: Lot 55 - Road (NW) immediately south-west of Dam 04. Road fill walkover for PACM – no PACM observed

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 43 **Date: 16/10/2019**

Location: Lot 55 - Road (SE) immediately south-west of Dam 04. Road fill walkover for PACM – no PACM observed

Photo 44 **Date: 16/10/2019**

Location: Lot 58 - Road intersection immediately north of Dam 01. Rubbish dumped on site

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 45

Date: 16/10/2019

Location: Lot 58 - Road intersection immediately north of Dam 01. Wood and rubbish burning on site

Photo 46

Date: 16/10/2019

Location: Lot 58 – Shed north east of MW01. Rubbish dumped on site

SITE PHOTOGRAPHS

Project: Mirvac – Kemps Creek

Client: Mirvac

Project Number: 10035157

Location: Kemps Creek, NSW

Photo 47

Date: 16/10/2019

Location: Lot 58 – Shed north east of MW01. Rubbish dumped on site

Photo 48

Date: 16/10/2019

Location: Lot 57 – Wood piles between Dam 01 and Dam 02