

### **Karimbla Constructions Services**

### **Validation Report**

2 Macpherson Street, Warriewood NSW

19 July 2019



Pour trust into your foundations and you can build anything This page has been left intentionally blank

### Validation Report

Prepared for Karimbla Constructions Services

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# Abbreviations

AC	Acceptance Criteria
AHD	Australian Height Datum
ASS	Acid Sulphate Soil
bgs	below ground surface
втех	Benzene, Toluene, Ethylbenzene and Xylenes
СМР	Contamination Management Plan
СОРС	Chemical of potential concern
DP	Deposited Plan
DQO	Data Quality Objective
DQI	Data Quality Indicators
Eurofins	Eurofins Environment Testing Australia Pty Ltd, trading as Eurofins MGT
HIL	Health Investigation Level
HSL	Health Screening Level
LOR	Limit of Reporting
mg/kg	milligrams per kilogram
ΝΑΤΑ	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environment Protection (Assessment of Site Contamination) Measure
NSW EPA	New South Wales Environment Protection Authority
NSW OEH	New South Wales Office of Environment and Heritage
РАН	Polycyclic Aromatic Hydrocarbon
PID	Photoionisation Detector
ppm	parts per million
QA	Quality Assurance
QC	Quality Control
RPD	Relative Percent Difference
SOP	Standard Operating Procedures
TCLP	Toxicity Characteristics Leaching Procedure
TRH	Total Recoverable Hydrocarbons
VENM	Virgin Excavated Natural Material
voc	Volatile Organic Compound

# **Executive Summary**

Karimbla Constructions Services (Karimbla) propose to redevelop the property at 2 Macpherson Street, Warriewood, NSW for low density residential use. The location of the property is shown on Figure 1. Coffey Services Australia Pty Ltd (Coffey) has been engaged by Karimbla to provide environmental consultancy services associated with the proposed redevelopment of the property which includes residential land use and perimeter road (herein refereed to the 'site').

Based on information provided by Karimbla, Coffey understands that the Karimbla are submitting a Development Application (DA) to Northern Beaches Council (Council) for a twenty-two (22) lot Torrens Title Subdivision. The proposed development will include demolition of existing structures and importation of construction fill material to raise the proposed residential area of the site by approximately 2.5mabove existing ground level, with final Relative Levels (RLs) ranging between 5.8m Australian Height Datum (mAHD) and 4.6mAHD. Twenty-two dwellings would occupy the middle of the site, leaving a riparian set back along the western, eastern and northern boundaries, which will undergo earth works, including cut and fill and riparian planting. An access road will be constructed around the perimeter of the residential area, joining Macpherson Street at two locations to the south. A retaining wall will be part built around the perimeter of the road. A concept plan of the proposed development provided in Appendix A, with the proposed site layout provided in Figure 2.

Council approved DA N0398/17 in mid-2019 for civil works including cut and fill, construction of a private road, drainage works and environmental works for the planned low density residential development located at 2 Macpherson Street, Warriewood NSW. The works proposed under this application include:

- Proposed Lot 1 Private access loop road;
- Proposed Lots 2 23 future residential lots under community title; and
- Proposed Lot 24 Land to be dedicated to Council, being the 25-metre inner creek line corridor in accordance with Item 1m in Warriewood Valley Development Contributions Plan Amendment 16, Revision 3, 2018.

Coffey understands that the construction of new dwellings does not form part of this application, Meriton are in the process of lodging a separate Development Application for the subdivision of the future residential dwellings.

As part of the planned redevelopment, Karimbla have implemented a programme of works to remove and manage soil contamination identified at the site in accordance with the following document:

 Coffey (2017d) Contamination Management Plan – 2 Macpherson Street, Warriewood NSW (Ref: SYDEN205656-R02 Revision 1, dated 20 December 2017).

Karimbla has engaged Ms Rebeka Hall of Zoic Environmental Pty Ltd as the site auditor, to issue a Site Audit Statement (SAS) and associated Site Audit Report (SAR) following completion of site validation activities.

This Validation report relates to the proposed residential area and perimeter road (the site) as shown on Figure 2.

The scope and rationale of validation sampling was outlined within the Revised Contamination Management Plan (Coffey, 2017d) which has not been affected by subsequent changes in details of the proposed design.

Based on site observations and data collected during the validation sampling programme (supplemented with site observations and data obtained during the Coffey (2017a and 2017c) DSI), Coffey concludes that:

• Previously identified asbestos impacted fill at locations TP04, TP13 and TP21 (Coffey DSI, 2017a) has been excavated and disposed to a facility licensed to receive special (asbestos) waste, in

accordance with Coffey's classification under the Waste Classification Guidelines (NSW EPA, 2014).

- Remaining fill material around location TP04, TP13 and TP21 following removal of asbestos impacted fill has been validated as suitable for planned future use in accordance with the CMP (Coffey, 2017d).
- Based on landfill weighbridge dockets provided by Karimbla, asbestos impacted fill totalling approximately 32.80 tonnes was excavated from location TP04, TP13 and TP21 and disposed of appropriately off-site to a landfill licensed to receive special (asbestos) waste.
- Visual inspection confirmed that aesthetically unacceptable soils have been relocated to the footprint of the proposed roadway and that soils identified with chemical impacts slightly above certain HIL-A and EIL/ESL values have also been relocated to beneath the future road where risk potential is considered acceptable.

Based on removal of asbestos impacted soil off-site to an appropriately licensed landfill, the records collected during the validation sampling programme and visual inspection after relocation of certain materials, Coffey considers that unacceptable risk posed by isolated incidence of asbestos impacted fill and HIL-A and EIL/ESL exceedances to future construction workers and other future site occupants has been eliminated, and that the site is considered suitable for the planned future land use, being residential with accessible soils.

Coffey understands that ground levels in the area covered by the proposed road and residential development require raising using imported fill material to reduce the risk of flooding. An addendum to this report will be issued after inspection and validation of imported fill to confirm that the site remains suitable for proposed residential use as a result of these earthworks. We recommend that, if required, the unexpected finds procedure (UFP) outlined in the CMP be implemented during any excavation works. A copy of the UFP (extracted from the Coffey (2017) CMP) is provided in Appendix G.

We draw your attention to the attached sheets titled "Important Information about your Coffey Environmental Report" which should be read in conjunction with this report.

# 1. Introduction

### 1.1. General

Karimbla Constructions Services (Karimbla) propose to redevelop the property at 2 Macpherson Street, Warriewood, NSW for low density residential use. The location of the property is shown on Figure 1. Coffey Services Australia Pty Ltd (Coffey) has been engaged by Karimbla to provide environmental consultancy services associated with the proposed redevelopment of the property which includes residential land use and perimeter road (herein refereed to the 'site').

Karimbla are submitting a Development Application (DA) to Northern Beaches Council (Council) for a twenty-two (22) lot Torrens Title Subdivision. Coffey understands that the proposed development will include demolition of existing structures and importation of construction fill material to raise the proposed residential area of the site by approximately 2.5m above existing ground level, with final Relative Levels (RLs) ranging between 5.8m Australian Height Datum (mAHD) and 4.6mAHD. Twenty-two dwellings would occupy the middle of the site, leaving a riparian set back along the western, eastern and northern boundaries, which will be regraded and revegetated to improve stormwater flow. An access road will be constructed around the perimeter of the residential area, joining Macpherson Street at two locations to the south. A retaining wall in part will separate the road from the riparian zone. A concept plan of the proposed development provided by Karimbla is included in Appendix A, and the proposed site layout is illustrated in Figure 2.

Council approved DA N0398/17 in mid-2019 for civil works including cut and fill, construction of a private road, drainage works and environmental works for the planned low density residential development located at 2 Macpherson Street, Warriewood NSW. The works proposed under this application include:

- Proposed Lot 1 Private access loop road;
- Proposed Lots 2 23 future residential lots under community title; and
- Proposed Lot 24 Land to be dedicated to Council, being the 25-metre inner creek line corridor in accordance with Item 1m in Warriewood Valley Development Contributions Plan Amendment 16, Revision 3, 2018.

Coffey understands that the construction of new dwellings does not form part of this application, Meriton are in the process of lodging a separate Development Application for the subdivision of the future residential dwellings.

Coffey completed contamination assessments for the proposed development and the following reports describe subsurface conditions at the site:

- Coffey (2016), Preliminary Site Investigation (PSI), 2 Macpherson Street, Warriewood NSW (reference: GEOTLCOV25237AB-AC Rev1, dated 29 October, 2016).
- Coffey (2017a); Detailed Site Investigation 2 Macpherson Street, Warriewood NSW (Ref: SYDEN205656-R01; dated 16 August, 2017)
- Coffey (2017b); Waste Classification for Asbestos Impacted Fill, 2 Macpherson Street, Warriewood NSW (Ref: SYDEN205656-R03; dated 15 November, 2017)
- Coffey (2017c); Addendum to Detailed Site Investigation Report, 2 Macpherson Street, Warriewood NSW (Ref: SYDEN205656-R04; dated 16 August, 2017)

As part of the planned redevelopment, Karimbla have implemented a programme of works to remove and manage soil contamination identified at the site in accordance with the following document:

 Coffey (2017d) Contamination Management Plan – 2 Macpherson Street, Warriewood NSW (Ref: SYDEN205656-R02 Revision 1, dated 20 December 2017). This Validation report relates to the planned residential area and perimeter road (the site) as shown on Figure 2.

Karimbla has engaged Ms Rebeka Hall of Zoic Environmental Pty Ltd as the site auditor, to issue a Site Audit Statement (SAS) and associated Site Audit Report (SAR) following the completion of the remediation and validation works.

## 1.2. Planned development

Survey drawings provided by Karimbla (JBW Surveyors Pty Ltd, Plan Ref: 124872 dated 31/10/14, included in Appendix A), show the reduced levels (RLs) of the existing ground surface range from approximately 2.5m AHD along the eastern and western margins to approximately 3.7m AHD in the middle of the southern half of the site. The Subdivision and 000-Series Civil Works Package (AT&LEarly Works Package, dated 29 November 2018, included in Appendix A) indicates that the proposed ground level for the area occupied by townhouses is between RL 5.8 mAHD (southern portion) and 4.8m AHD (northern portion), which is approximately 1.5m to 1.7m above the previous design proposal.

The elevation of the proposed access road is between 4.8mAHD at the southern boundary to 4.6m AHD along the northern boundary, with the road being raised by approximately 1.3m to 2m.

Coffey understands that the proposed development includes:

- Civil works to prepare the site for future residential development, including cut and fill
- Construction of one (1) private access road (which will be dedicated to Council)
- Stormwater drainage works;
- Environmental management works (the disposal of land to Council as a public creek connection (riparian corridor)).
- Associated landscaping and tree removal;
- Establishment of building envelopes to accommodate 22 future dwellings

Coffey was provided with a copy of the approved development plans (Early works 1000-series, civil works package: project number 18-580, issue F, dated 28 Mar 2019 (Appendix A)). Coffey understands that the north eastern portion of the future road area has changed slightly from the original design plans used for Figures 2 and 3 within this report. This change in position of the road was required to flood mitigation purposes at the site. A copy of the subdivision plan (Drawing no. 22053, Rev.G, dated 20/06/2017, which will be submitted as part of the subdivision application is provided in Appendix A.

The location of the residential area, perimeter road and riparian zone is illustrated on Figure 2.

## **1.3.** Validation Objective

The purpose of the validation works was to demonstrate that the site is suitable for the planned use.

The scope and rationale of validation sampling is described in Section 4 of this report and was outlined in:

 Coffey (2017d) Contamination Management Plan – 2 Macpherson Street, Warriewood NSW (Ref: SYDEN205656-R02 Revision 1, dated 20 December 2017).

# 2. Site Information

## 2.1. Site identification

The site location and site plan is shown in Figures 1 and 2 respectively. Key site identification details are provided in Table 2.1.

 Table 2.1: Site Identification

Site Address:	2 Macpherson Street, Warriewood NSW
Current Site Ownership	Karimbla Properties No.32
Site Area	Property approximately 2.2 Ha, including 1.0 Ha for the access road and residential area (the site)
Site Identification Details	Property is Lot 25 in Deposited Plan (DP) 5464
Current Zoning	Zone R3: Medium Density Residential under Pittwater Council Local (now Northern Beaches Council) Environmental Plan 2014.
Current Site Use / Property Description	The site was formerly a plant nursery (Foley's Nursery), and was used for the cultivation, storage and retail sale of plants. Infrastructure associated with the former nursery (i.e. sales building, equipment shed, greenhouses and plant storage and display areas) has been partially removed.
Proposed Site Use	Residential with garden and accessible soils in the form of dwellings (approximately 6,500m <sup>2</sup> ). The residential area will be surrounded by a road (approximately 3,400m <sup>2</sup> ) and a riparian reserve (approximately 1.2 Ha) following Narrabeen Creek on the northern and eastern sides of the site.

At the time of compiling this report, the site condition had not changed significantly except for the removal of site buildings to ground slab level, except for a large canopy remaining in the south western corner of the site. The concrete slab, across the southern area of the site was largely intact, the approximate location of the slab is shown on Figure 2.

Mature trees are present along the property boundary. Based on conceptual drawings provided in Appendix A, Coffey understands that these trees will be retained within a Riparian set-back.

## 2.2. Geology and soils

The Sydney 1:100,000 Geological Series Sheet 9130 indicates the locality is underlain by alluvial sediments of Quaternary age. The alluvial soils are typically described as silty to peaty quartz sand, silt and clay, with ferruginous and humic cementation in places and common shell layers. Hawkesbury Sandstone, of Triassic age, underlies the alluvium.

The Sydney Soil Landscape Sheet 9130 indicates that the Warriewood soil landscape is present on the site. This landscape is characterised by deep, well-sorted sandy podsols and dark mottled siliceous sands.

The general stratigraphy encountered during field investigations by Coffey (2017) typically comprised fill material ranging in thickness between 0.2m and greater than 1m, underlain by natural alluvial deposits consisting of sand and firm silts and clays, with the thickness undefined. Copies of boreholes logs from the DSI (Coffey, 2017a) and Addendum DSI (Coffey, 2017c) are provided in Appendix C.

## 2.3. Acid sulfate soils

The 1:25,000 Acid Sulfate Soil Risk Map, Hornsby and Mona Vale Sheet (edition two, 1997) indicates that the locality is underlain by an Aeolian sand plain (Wa2). The Acid Sulfate Soil Risk Map shows a high probability of acid sulfate soil occurrence between 1m to 3m below ground, which is consistent with Coffey's observation of alluvial sand and firm silts and clays below existing fill material.

A sulfrous odour was identified in the excavation at location TP01 during Coffey's field investigations, indicating a high probability for acid sulfate soils to be present beneath the site. No field screening test for acid sulfate soils was undertaken during the investigation.

## 2.4. Regional topography and drainage

The site includes a section of Narrabeen Creek, located around the northern and eastern site boundaries. Narrabeen Creek flows to the south, joining Mullet Creek and South Creek which discharge into the Pacific Ocean.

The topography of the site appears to be mounded, with the higher south central portion of site surveyed at 3.71mAHD, with surrounding elevations between 1.87m AHD (north), 1.6m AHD (east) and 1.0m AHD (south). This topography is consistent with the position of Narrabeen Creek.

As the site is predominantly unsealed, it is expected that surface water runoff would percolate into sub-surface soils, except during intense rainfall when surplus water would drain into the stormwater system and/or adjacent Narrabeen Creek.

## 2.5. Hydrogeology

A search of groundwater bore licences was undertaken on 19 June 2017 using the NSW Department of Primary Industries, Office of Water website (http://allwaterdata.water.nsw.gov.au/water.stm). The results of the search indicated that there are two registered bores (GW106697 and GW106698) within a 500m radius of the site. These bores are located approximately 450m to the North West of the site at 14 Macpherson Street, Warriewood and are used for monitoring purposes.

Groundwater is expected to be present at shallow depths within the underlying Quaternary deposits, discharging into Narrabeen Creek located along the northern and eastern site boundaries. Groundwater flow direction is expected to vary with flow direction ranging from north to east.

The risk of groundwater contamination at the site is discussed further in Section 4.2 below.

### 2.6. Site history

The Phase 1 Site Contamination Assessment (Coffey PSI report, 2016) presents a summary of the historical uses of the site based on a review of selected aerial photographs, historical land ownership, NSW EPA public registers and Council planning records/certificates.

Information collected on site history indicates that:

- The site appears to have been undeveloped land from at least the 1930s until between 1961 and 1978 when the site was developed for use as a market garden or orchard. The site remained relatively unchanged with the exception of reworking of soils for planting and construction of glass houses within the southern half of the site in 1982. Aerial photographs indicate that these glasshouses were removed between 1982 and 1994. Some smaller buildings were constructed in the southern portion of the site.
- A search of the NSW WorkCover's Stored Chemical Information Database (SCID) identified no licences to store dangerous goods on site. However anecdotal evidence from a former employee of the Nursery (Neil), indicated that an above ground storage tank (AST) was previously located on a concrete loading dock in the southern portion of the site. It is understood that this AST was

used to store diesel for refuelling a tractor used at the nursery. It is noted that storage of diesel fuel previously did not require a Dangerous Goods licence from NSW WorkCover.

The following areas of environmental concern (AEC) and contaminants of potential concern (COPC) were identified:

- Fill of unknown origin and quality distributed across the site;
- Possible use of pesticides / herbicides associated with market garden and nursery operation;
- Potential storage and use of fuels and oils associated with the operation of machinery onsite (e.g. tractor and lawn mowers).
- Potential for weathering of hazardous building materials such as lead paint and fibre cement containing asbestos from former site structures and uncontrolled demolition of former site structures or vandalism of remaining buildings which may have included hazardous building materials.

Based on these findings, Coffey considered that the site could be made suitable for its proposed use in accordance with decision making under planning processes described in SEPP55 (DUAP, 1998); however, it was recommended that a detailed site investigation be completed to assess the potential contamination risk for proposed future residential use with access to soil on the site.

## 3. Previous Investigation Findings

### 3.1. Detailed Site Investigation (Coffey, 2017a)

Coffey undertook a Detailed Site Investigation (DSI) on the site in May 2017. Figure 2 shows sampling locations for this investigation.

In summary, this investigation comprised:

- Intrusive investigation of the subsurface for soil type and chemical characteristics using 28 test pits (TP01 to TP28) to depths ranging between 0.6m and 1.2m bgs and five hand augured boreholes (HA01 to HA05) extended to depths ranging between 0.3m to 0.6m bgs with refusal occurring due to underlying concrete slabs and/or hard fill materials.
- Analysis of selected soil samples from each borehole for Contaminants of Potential Concern (COPC) including one or more of:
  - Heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc);
  - Total recoverable hydrocarbons (TRH);
  - Polycyclic aromatic hydrocarbons (PAH);
  - Benzene, toluene, ethylbenzene and total xylene (BTEX);
  - Organochlorine / organophosphorus pesticides (OCP/OPP);
  - Polychlorinated Biphenyls (PCB);
  - Herbicides; and
  - Forms of asbestos.

The findings from this investigation were reported in Coffey (2017) *Detailed Site Investigation, 2 Macpherson Street, Warriewood NSW* (Ref: SYDEN205656-R01), and key findings were:

- Asbestos Fines, in the form of fibre cement fragments (not visible unaided) and loose fibre bundles, were detected in three shallow samples of fill collected from soil test pits TP04 and TP13 at a depth of 0.05-0.15m and TP21 at a depth of 0.1-0.2m.
- Carcinogenic PAH (as benzo(a)pyrene TEQ) was reported at 5.5mg/kg which is above HIL A of 3mg/kg in fill sample HA02\_0.05-0.15. The source of the PAHs is attributed to ash in fill (as noted on the borehole log). TCLP analysis was undertaken which indicated that the PAHs have very low mobility. Delineation of this impact was achieved, with the deeper sample (HA02\_0.4-0.5) reporting 0.5mg/kg.
- Exceedances of the EIL/ESLs for nickel, zinc, TRH C16-C34 and benzo(a)pyrene occurred in six soil samples from five sampling locations (HA02, TP11, TP14, TP23 and TP26). However, the risk associated with these impacts is considered to be negligible due to the immobile nature of the nickel and zinc which is associated with the crystalline matrix of terracotta and of TRH C16-C34 and benzo(a)pyrene which is associated with the crystalline matrix of coal ash.
- Groundwater is unlikely to be impacted based on chemical concentrations and practical immobility of chemicals detected in soil samples analysed and depth of identified impacts.
- Available soil data indicates that the fill material on the site would classify as General Solid Waste in accordance with the Waste Classification Guidelines (EPA; 2014), with asbestos impacted fill to be managed as Special (asbestos) waste. Coffey recommended removing asbestos impacted fill prior to commencement of bulk earthworks.

Coffey recommended that the isolated occurrences of asbestos impacts be addressed through implementation of a contamination management plan (CMP), which would require an asbestos removal plan in accordance with WHS Regulation. We also recommended that the CMP include an unexpected contamination finds procedure as a precautionary measure.

A summary of analytical results from the DSI is provided in Table 1, and copies of borehole logs are provided in Appendix C.

## 3.2. Addendum to DSI (Coffey, 2017c)

Coffey undertook a validation assessment and additional soil investigation at the site to close out data gaps associated with constrained access for subsurface sampling due to presence of a concrete slab and unconfirmed depth of fill material in the southern part of the site. This involved:

- Collection of samples from six test-pits (TP29 to TP34) from areas where buildings and concrete slabs previously limited sub-surface investigation. Samples were collected from fill and natural soils and submitted for laboratory analysis for the contaminants of potential concern (COPCs) including TRH, BTEXN, PAH, OCP, OPP, heavy metals, herbicides, PCBs and asbestos to close the data gap regarding the extent and condition of fill material within the southern portion of the site;
- Excavation and visual inspection of fill and natural soils at test pit location TP35 in the vicinity of TP03 and TP05, which previously were terminated in fill.
- Soil samples (from test pits TP29 to TP34) were screened in the field using a calibrated photoionisation detector (PID) to assess the potential presence of volatile organic compounds (VOC).
- One duplicate (QB101) and one triplicate (QT101) were collected on the same day from additional test-pit TP30. Based on our quality assurance assessment, we concluded that the analytical results were representative of the conditions of the sampling locations at the time of sampling and were directly usable for the assessment.

The investigation concluded the following:

- In samples from additional test pits, asbestos was detected in the form of loose fibre bundles in sample TP33 (2.3-2.4m) however, asbestos was below the reporting limit of 0.001% weight for weight (w/w). In addition, the sample depth was 2.3 to 2.4 m bgs, considering this area of the site will be raised by approximately 1.1m, the depth to this asbestos impact following construction will be 3.4m bgs. Coffey concludes that the risk associated with this asbestos impact during redevelopment and future site use is low and no remediation is warranted.
- An exceedance of the ESL for benzo(a)pyrene was detected in TP31 (0.1-0.2m). However, Coffey notes that this location is beneath the proposed road, making the potential exposure pathway to ecological environments incomplete. In addition, the risk is considered negligible due to the immobile nature of the contamination which is associated with ash. Therefore the risk is considered to be low and no remediation is warranted.
- An exceedance above the HIL criteria for carcinogenic PAH (benzo(a)pyrene TEQ) was detected in sample TP32 (0.5-0.6m). However, Coffey notes that this location is beneath the proposed road, making the potential exposure pathway to future residents incomplete. The reported concentration was well below the HIL-D criterion (40mg/kg) which is applicable for future maintenance workers undertaking excavation. Therefore the risk is considered to be low and no remediation is warranted.

A summary of results is provided in Table 2, with copies of test pit logs are provided in Appendix C.

### 3.3. Type and extent of contamination

The type and extent of contamination is summarised below:

Based on the available data for the site, the areas requiring remediation include:

- Asbestos impacted fill material at test-pit locations TP04, TP13 and TP21 sampled during the DSI (Coffey, 2017a).
- Carcinogenic PAH (as benzo(a)pyrene TEQ) in fill samples HA02\_0.05-0.15.

- Exceedances of the EIL/ESLs for concentrations of nickel, zinc, TRH C16-C34 and benzo(a)pyrene were noted in six soil samples from five sampling locations (HA02, TP11, TP14, TP23 and TP26). However, the risk associated with these impacts is considered to be negligible due to the immobile nature of the contamination which is associated with the crystalline matrix of terracotta (nickel and zinc) or coal ash (TRH C16-C34 and benzo(a)pyrene).
- Aesthetically unacceptable fill material (i.e. crushed terracotta) across the site, but mostly in the northern part.

We note that Carcinogenic PAHs identified at location HA02 were at a concentration below HIL D, and were considered not to pose an unacceptable risk to construction workers during redevelopment nor to future maintenance workers involved in excavation.

# 4. Data Quality Objectives

The Data Quality Objectives (DQO) process outlined in Appendix B of Schedule B2 of the National Environment Protection (Assessment of Site Contamination) Measure, 1999 (NEPC April 2013) (ASC NEPM), was used to 'define the type, quantity and quality of data needed to support decisions relating to the environmental condition of a site'. The DQOs for validation sampling and assessment are summarised in Table 4.1.

Step 1 State the Problem	Has asbestos impacted fill at three locations (TP04, TP13 and TP21) been removed and remaining soil validated as suitable for future intended site use?
	Has aesthetically unsuitable fill material from across the site been relocated from the residential area and Riparian reserve within the future road footprint?
	Has fill material exceeding HIL-A and EIL/ESLs been placed beneath the future road footprint?
	Is imported material suitable for residential land?
	Is the site suitable for the proposed low density residential land use, with access to soils?
Step 2 Identify the Decision	The decision will be whether or not identified impacts have been removed to mitigate health risk to construction workers during site development and future users of the proposed residential area.
Step 3 Identify Inputs to the	The primary inputs to assessing the above include:
Decision	<ul> <li>data collected during the validation works and DSI</li> </ul>
	<ul> <li>relevant legislation and regulatory guidelines</li> </ul>
	<ul> <li>field observations by a person competent to identify visible asbestos impact</li> </ul>
	<ul> <li>results from laboratory analysis of samples collected</li> </ul>
	VENM assessment reports and site inspections for intended VENM
	• Visual inspections following placement of aesthetically unsuitable fill material beneath the future road.
Step 4 Define the Boundaries of the Study	The investigation area is defined by the boundaries of the proposed road shown on Figure 2. The vertical boundary for the validation assessment is 3m below the final RL (RL 4.29m AHD) following importation of construction fill used to raise the site.
Step 5 Develop a Decision Rule	<ul> <li>If concentrations of analytes are below the investigation levels as listed in Section 4 of the CMP, then the fill material may be retained on site.</li> <li>If concentration(s) of analyte(s) is/are above the investigation levels, then further assessment of the material in the vicinity of the incidence is required to determine potential for reuse, and disposal as waste otherwise.</li> <li>Material intended for importing as fill must meet the definition of VENM, or ENM or other RRO/E material if relevant, and be aesthetically suitable for placement on future residential land.</li> </ul>

Step 6 Specify Limits of	There are two types of decision errors:
Decision Error	<ul> <li>Sampling errors, which occur when the samples collected are not representative of the conditions within the investigation area; and</li> <li>Measurement errors, which occur during sample collection, handling, preparation, analysis and data reduction.</li> </ul>
	The null hypothesis for this study is:
	<ul> <li>Contaminant concentrations within the AEC are more than the adopted investigation levels.</li> </ul>
	These errors may lead the decision maker to make the following errors:
	<ul> <li>Deciding that the soil is not contaminated and, therefore, the area associated with the AEC is deemed suitable for the proposed residential use when the reverse is true; and</li> <li>Desiding that the soil is contaminated and, therefore, the area associated with the</li> </ul>
	AEC is not suitable for the proposed residential use when the reverse is true.
	An assessment will be made as to the likelihood of a decision error being made based on the results of a QA/QC assessment and the closeness of the data to assessment criteria. Additionally, statistical methods such as 95% Upper Confidence Limit (UCL) calculations may be utilised, where applicable.
Step 7 Optimise the Design for Obtaining Data	Based on the previous Steps 1 to 6 of the DQO process, the design for obtaining the required data is presented in the CMP (Coffey, 2017d), and summarised in the following sections.

## 4.1. Sampling and analysis plan

### 4.1.1. Field work plan – Validation Sampling

To meet the validation objectives, three locations in fill material where asbestos impacts had previously been identified (TP04, TP13 and TP21), were excavated and validated in accordance with the procedures outlined in the revised CMP (Coffey, 2017d) which is consistent with Schedule B2 in the ASC NEPM. An area of approximately 5m square and 0.2m depth centred on each test pit location (TP04, TP13 and TP21) was excavated to remove asbestos impacts in fill material identified during the Coffey DSI (Coffey, 2017a) and Addendum DSI (Coffey, 2017c) and each location was validated. The scope and rationale of the validation sampling is summarised in Table 4.2.

A visual inspection was undertaken on 19 February following relocation of the aesthetically unacceptable fill material and the HIL-A and EIL/ESL impacts within the road footprint.

Validation of imported construction fill will also be included in the addendum/revision to this report once completed.

#### Table 4.2: Field Work Plan – Validation Sampling Programme

Scope	Contaminant	Rationale
Excavation TP04. TP13 and TP21	Asbestos	Excavate identified asbestos impacted fill and classify for off-site disposal to a facility licenced to receive asbestos waste.
Excavation to remove identified asbestos impacts at sampling locations TP04, TP13, TP21 and validate boundary of excavated area.		<ul> <li>Visual screening for visible forms of materials suspected to contain asbestos by a licenced asbestos assessor.</li> <li>Recover representative samples from fill material for validation purposes and chemical analysis for asbestos for validation purposes.</li> </ul>
Visual Validation Aesthetic issues – fill impacted with crushed terracotta PAH HIL-A exceedance at TP32 EIL/ESL exceedances at TP14, TP26 and TP23	Aesthetically unacceptable fill material Carcinogenic PAH (benzo(a)pyrene TEQ) at TP32 (0.5-0.6m) TP23, nickel in sample from 0.1-0.3m TP14, nickel in sample 0.05-0.15m TP26, zinc in sample 0.1-0.2m	<ul> <li>Visual validation following removal of fill material from residential and riparian areas impacted by crushed terracotta and placement of material within the road footprint, visual validation across the future residential area.</li> </ul>
Validation of Imported Construction Fill Estimated volume of 10,000m <sup>3</sup> of Construction fill will be imported to raise the site level.	Chemical of Potential Concern including: Heavy Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc), TRH, BTEX, PAH, OCP, OPPs, PCBs, herbicides and asbestos Visual validation of aesthetics.	<ul> <li>Chemical characterisation to demonstrate that it is suitable for the proposed future uses of the site and confirmation by inspection that imported material is aesthetically acceptable.</li> <li>If imported material is classified as virgin excavated natural material (VENM), then Coffey proposes sampling and chemical analysis for TRH, PAH and heavy metals at a frequency of one sample per 500m<sup>3</sup>, with a minimum of 6 samples for any one source site.</li> <li>If imported material is classified as excavated natural material (ENM), then Coffey would use information on material characterisation required to be reported under the ENM Order 2014 for validation.</li> <li>If imported material is received under a site specific Resource Recovery Order / Exemption issued by NSW EPA, then validation would follow one of the two methods</li> </ul>

Scope	Contaminant	Rationale
		described above, depending on which is the more appropriate. In this situation, the method of validation would require acceptance by the site auditor.

## 4.2. Soil sampling methodology

The soil sampling methodology is summarised in Table 4.3.

#### Table 4.3: Soil Validation Sampling Methodology

Activity	Detail / Comments
Soil Sampling	Soil samples were collected in accordance with Coffey's relevant Standard Operating Procedures (SOP) and validation sampling procedure outlined in the CMP. Soils surrounding TP04, TP13 and TP21 were removed using an excavator and placed directly into a truck for transport to an appropriately licensed landfill for disposal as Special (asbestos) waste. Samples were collected from each wall and the base of each excavation.
	Soil sampling for quantitative analysis of asbestos in soil included a 10L sample of fill, sieved through a 7mm screen in the field to observe for ACM fragments and a 500mL sample of material passing the sieve screen was collected in a zip-lock plastic bag for asbestos analysis. No suspected ACM fragments were retained on the sieve screen for any of the samples. 10L soil samples were collected by hand from the walls and base of excavations. A new clean pair of disposable nitrile gloves was used to transfer material passing the 7mm sieve to laboratory supplied sample jars which were submitted to a NATA accredited laboratory for analysis under chain of custody control.
Soil Logging	Soil samples were logged by a suitably qualified and experienced Coffey scientist/engineer in accordance with Coffey's relevant Standard Operating Practice (SOP), which is consistent with Section 7.3, Field Description of Soils, in Schedule B2 of the ASC NEPM 2013.
	The presence / absence of potential asbestos containing material, demolition waste, fill and visible and olfactory evidence of contamination was recorded on the field notes.
Soil Screening	As the contaminant of concern was asbestos, soil headspace screening using a PID was not undertaken.
Sample Handling and Transportation	Sample collection, storage and transport were conducted in general accordance with Coffey's relevant SOP. Samples for asbestos analysis were placed into a ziplock bag and double bagged within a second ziplock bag prior to laboratory submission.
	The samples were dispatched to NATA accredited laboratories under chain of custody control.
Sample Splitting	No Intra-laboratory (blind duplicate) and inter-laboratory (split duplicate) samples of soil materials were collected from the asbestos validation areas.

### 4.3. Laboratory analysis

Laboratory analyses were carried out by the following laboratories who hold NATA accredited methods for the analyses undertaken at Eurofins | MGT at Lane Cove West, NSW.

# 5. Acceptance Criteria

### 5.1. Soil acceptance criteria

Coffey understands that the ground level in the proposed residential area will be raised by approximately 0.6m to 1.0m with imported fill in order to mitigate flood risks. The proposed land-use is low density residential with access to gardens and soil. The investigation levels presented in the following references were adopted as the Acceptance Criteria (AC) for soils remaining on-site:

 NEPC (2013) Schedule B1 Guideline on Investigation Levels for Soil and Groundwater, National Environment Protection (Assessment of Site Contamination) Measure 1999, April 2013 (ASC NEPM)

Other references, in particular Schedule B7 of the ASC NEPM, were used to supplement Schedule B1 where appropriate.

The intended future use of the site is considered consistent with the "Residential A" exposure scenario described in Schedule B7 of the ASC NEPM which allows for garden / accessible soils and includes dwellings with home grown produce <10% fruit and vegetable intake, (no poultry).

Schedule B1 also provides health screening levels (HSLs) for volatile hydrocarbons (total recoverable hydrocarbon (TRH), BTEX, and naphthalene) for different types of soil and different soil depths for different land uses.

Schedule B1 also provides health screening levels (HSLs) for asbestos in soil. These HSLs cover a range of land use settings including low density residential use (Residential A) with garden / accessible soils, which has been adopted as representative of this site.

Based on site observations made during the DSI, the site is covered by a layer of fill material that consists predominately of sandy soils above natural alluvial sands, therefore HSLs for sandy soil texture is considered appropriate.

Schedule B1 provides guidance in deriving ecological investigation levels (EILs) for the protection of terrestrial ecosystems for common contaminants in soil for three general land uses. As the proposed land use low-density residential, the land use setting for 'urban residential and public open space' is adopted to derive the EILs. ESLs for coarse soil texture are considered applicable. We note our suggested departure from the ESL for benzo(a)pyrene discussed in Table 5.1 D and adoption of the related value Canadian Soil Quality Guidelines for Environmental Health (SQGE) to give an ESL of 20mg/kg. As discussed in the Revised CMP (Coffey, 2017d), Coffey considers that the low reliability ESLs for benzo(a)pyrene listed in Table 1B(6) of Schedule B1 of the ASC NEPM are out dated and the Canadian Soil Quality Guidelines for Environmental Health (SQGE) have been adopted (CCME, 2010). The Canadian SQGE for B(a)P has been derived using a similar methodology to that prescribed in Schedule B5b of the ASC NEPM (i.e. the species sensitivity distribution approach).

The nominated AC for soil impact assessment/validation are included in Tables 5.1 A to Table 5.1 F.

Analyte	HILs for Residential A (mg/kg)
Arsenic (total)	100
Cadmium	20
Chromium (VI) <sup>1</sup>	100
Copper	6,000
Lead	300
Mercury (inorganic)	40
Nickel	400
Zinc	7,400
Carcinogenic PAHs as Benzo(a)pyrene TEQ <sup>2</sup>	3
Total PAHs	300
Aldrin + Dieldrin	6
Chlordane	50
DDT+DDD+DDE	240
Endosulfan	270
Endrin	10
Chlorpyrifos	160
Heptachlor	6
НСВ	10
Methoxchlor	300
Non-dioxin like PCB	1

#### Table 5.1 A – Selected AC related to Human Health Risk by Direct Exposure

<sup>1</sup> Laboratory Total Chromium results (or Total Chromium minus Chromium III) will be assessed against the HIL for Chromium VI as an initial screening assessment.

<sup>2</sup>TEQ = Toxicity Equivalent Quotient

#### Table 5.1 B - Selected AC related to Health Risk by Vapour Intrusion of Volatile Compounds

Chemical	HSL A & B – Residential (for sandy soils) <sup>1</sup> (mg/kg)		HSL-A Direct Contact <sup>2</sup> (mg/kg)	Intrusive Maintenance	
	0m to <1m	1m to <2m	2m to <4m		Worker <sup>2/3</sup> (mg/kg)
Benzene	0.5	0.5	0.5	100	120,000 / NL
Toluene	160	220	310	14,000	85,000 / NL
Ethylbenzene	55	NL	NL	4,500	130,000 / NL
Xylenes	40	60	95	12,000	29,000 / NL
Naphthalene	3	NL	NL	1,400	1100 / 77
F1 (TPH C <sub>6</sub> -C <sub>10</sub> – BTEX)	45	70	110	4,400	82,000 / NL
F2 (TPH >C10-C16 - Naphthalene)	110	240	440	3,300	62,000 / NL

Notes:

NL: non-limiting (i.e. contaminant is not considered to pose a risk to human health through vapour inhalation regardless of concentration).

Soil type is assumed to be clayey soils based on previous investigation.

1. Table 1A(3) – Soil Health Screening Levels for Vapour Intrusion (NEPC, 2013)

2. Table B4 - Soil Health Screening levels for Direct Contact for future resident (CRC CARE, 2011)

3. Table B3 – Soil Health Screening Levels for Vapour Intrusion (Intrusive Maintenance Worker) (CRC CARE, 2011)

Table 5.1 C - Selected AC related to	Ecological Risk from Metals
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Chemical	Urban Residential / Public Open Space (mg/kg)		
	Added Contaminant Limit	Ambient Concentration <sup>(4)</sup>	EIL <sup>(5)</sup>
Arsenic	100	5	110
Chromium	190 <sup>(1)</sup>	13	200
Copper	95 <sup>(2)</sup>	28	120
Lead	1,100	163	1,270
Nickel	<b>30</b> <sup>(2)</sup>	5	40
Zinc	230 <sup>(3)</sup>	122	350

<sup>1</sup> Based on a (conservative) clay content 1%.
 <sup>2</sup> Based on a cation exchange capacity of 5cmol<sub>6</sub>/kg typical of a granular soil with minor clay.
 <sup>3</sup> Based on a cation exchange capacity of 5cmol<sub>6</sub>/kg typical of a granular soil with minor clay and a pH of 6.5.
 <sup>4</sup> Derived from Olszowy.H et al (1995) using 25%ile concentrations for an old suburb with high traffic in NSW.
 <sup>5</sup> EIL = Contaminant Limit + Ambient Background Concentration, rounded.

Table 5.1 D - Selected AC related to Ecological Risk from Petroleur	n Compounds
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Chemical	ESL – Urban Residential and public open space (for coarse grained soils) (mg/kg)
F1 C6-C9	180
F2 C <sub>10</sub> -C <sub>16</sub>	120
F3 >C16-C34	300
F4 >C <sub>34</sub> -C <sub>40</sub>	2800
Benzene	50
Toluene	85
Ethylbenzene	70
Xylenes	105
Benzo(a)pyrene <sup>1</sup>	20
Naphthalene	170

<sup>1</sup> Canadian Soil Quality Guidelines for Environmental Health (SQGE), 2010

Table 5.1 E -	Selected Manage	ement Limits for	Petroleum Co	ompounds

Chemical	Management Limits – Urban residential and public space (for coarse grained soils) (mg/kg)
TRH F1 C6-C10	700
TRH F2 >C10-C16	1000
TRH F3 >C16-C34	2500
TRH F4 >C34-C40	10,000

Forms of asbestos	Health Screening Levels (w/w) Residential A
Bonded ACM	0.01%
FA and AF	0.001%
All forms of asbestos	No visible asbestos for surface soils No free asbestos fibres identified

#### Table 5.1 F – Selected Health Screening Levels for Asbestos in Soil

### 5.2. Soils - aesthetic criteria

Although no quantitative aesthetic guideline values are provided, Schedule B1 in the ASC NEPM requires consideration of aesthetic issues (connected with contamination), arising from soils within the site. The following assessment criteria were adopted when considering soil aesthetics:

- No persistently odorous soils, taking into consideration the natural state of the soil.
- Consistency of existing soil and also of imported fill should be compatible with what a reasonable person would expect for the garden of an urban residence.

### 5.3. Waste classification thresholds

Waste materials are classified in accordance with Waste Classification Guidelines (NSW EPA, 2014).

### 5.4. Groundwater

Groundwater inflow was observed in test pits TP02, TP03 and TP05 between 0.5m and 0.7m bgs during the Coffey (2017a) DSI. It was considered likely that observed groundwater inflow was representative of localised perched water and is not representative of regional groundwater in Warriewood.

Groundwater assessment was not included in the previous investigation (Coffey, 2017a), but potential impacts to groundwater quality were discussed with reference to the findings of the soil investigation. The current site has been raised by filling and is higher that the surrounding ground. Thus, transport of contamination onto the site by groundwater from an off-site location is extremely unlikely, and groundwater quality beneath the site is reasonably expected to be influenced by the characteristics of fill material currently on the site.

Relatively low concentrations of heavy metals and minimal occurrence of organic compounds were reported for soil samples collected on-site (Coffey, 2017a), and with no likely source on-site, the potential for groundwater impacts sourced from the site is considered to be low. Thus, groundwater beneath the site is considered by Coffey to be unaffected by observed soil characteristics.

Given that the site is proposed to be raised by a further 0.6m to 1.0m with imported construction fill, we expect that groundwater will not be encountered during construction and therefore groundwater assessment criteria for direct human exposure is considered not relevant during remediation. In addition, no volatile hydrocarbon impact was identified in soil beneath the site at a concentration above applicable HSLs. Coffey concludes that no potentially unacceptable vapour inhalation risk likely to be associated with soil or groundwater at the site.

# 6. Quality Assurance / Quality Control

The following QA/QC assessment addresses data completeness, comparability, representativeness, precision and accuracy based on field and laboratory considerations and the processes for assessment of data quality provided in Section 19 (Appendix C) of Schedule B2 Guideline on Site Characterisation of the ASC NEPM.

## 6.1. Data quality indicators

The data quality indicators are based on the analysis of field and laboratory quality control sample results, and in accordance with AS 4482.1-2005. Specific data quality indicators and related control limits for field and laboratory QA/QC samples are shown in Table 6.1.

Type of Quality Control Sample	Control Limit
Duplicate Samples	<ul> <li>Relative Percentage Difference (RPD) within 50% for samples except when:</li> <li>the reported concentration is &lt;10 times LOR for which no limit applies; or</li> </ul>
	• one sample reports a detectable concentration and the alternate sample reported a concentration below the LOR.
Spiked samples	<ul> <li>Recoveries within the following ranges :</li> <li>70 - 130% for inorganics / metals.</li> <li>60 - 140% for organics.</li> </ul>
Blank Samples	Analytes not detected

#### Table 6.1: Data Quality Indicators

## 6.2. Field quality assurance / quality control

### 6.2.1. Field sampling – Validation and DSI

Field sampling during the Coffey DSI and addendum DSI (2017a and 2017c) and validation works was carried out by a Coffey environmental scientist with experience in undertaking environmental sampling work, and competent in the identification of materials suspected to contain asbestos. Coffey collected soil samples in accordance with Coffey SOP, which are based on industry guidance including *Schedule B2: Guideline on Site Characterisation* (ASC NEPM) and AS4482; *Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil* (Parts 1 (2005) and 2 (1999)).

Following the completion of the field sampling tasks, the Coffey scientist submitted the samples to the primary laboratory for analysis using chain of custody control. The primary laboratory forwarded (triplicate) samples onto the secondary laboratory for analysis.

### 6.2.2. Quality control samples

Quality control samples were collected as part of sampling activity for the Addendum DSI (Coffey, 2017c) which coincided with validation sampling after removal of asbestos impacted fill. This included intra-laboratory duplicate and inter-laboratory triplicate samples, trip spike and trip blank samples. Results of the quality control samples were reported in the Addendum DSI (Coffey, 2017c). We

concluded that the analytical results were representative of the conditions of the sampling locations at the time of sampling and were directly usable for this assessment.

Coffey notes that due to the nature of asbestos impact, no duplicate or triplicate samples were collected with current validation samples. Each excavation was inspected by a Licensed Asbestos Accessor with a Clearance Certificate issued (Appendix D). It is also noted that no residual ACM or building materials were observed within the excavated areas.

## 6.3. Laboratory QA/QC

In accordance with quality plans associated with NATA accreditation, the project laboratories performed an internal QA/QC assessment. The assessment is typically described as a multi-level approach whereby standard laboratory control procedures are implemented, including laboratory duplicates, method blanks, matrix spikes and surrogate spikes, for contaminants other than asbestos.

Laboratory QC analytical results are summarised below:

- All samples were extracted and analysed within acceptable holding times.
- No target analytes were detected in any of the method blanks.
- RPDs for the laboratory duplicate samples were within the acceptable range for all samples, except for various TRH, PAH Benzo(k)fluoranthene, however it the RPDs pass the acceptance criteria defined in the Internal Quality Control Review and Glossary page.
- Percentage recovery results for laboratory control samples were within the acceptable range for all samples.
- Percentage recovery results for surrogate samples were within the acceptable range for all samples.
- Percentage recovery results for matrix spikes were within the acceptable range for all samples, except for TRH >C16-C34 and TRH >C34-C40 which was above the recommended acceptance criteria, it is noted that an acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference. It is noted that this spike is for the additional test-pits sampled during the Addendum DSI which were collected on the same day as validation samples.

### 6.4. Data quality assessment

Based on an assessment of the field and laboratory QA/QC data obtained during the validation works and addendum DSI (Coffey, 2017c), we consider that the data obtained is representative of subsurface conditions at the sampling locations, and the results are acceptable for the purposes of this assessment.

## 7. Site Validation Assessment

### 7.1. Excavation of identified asbestos impacted fill

On 29 November 2017, Coffey guided removal of fill material at locations TP04, TP13 and TP21, where asbestos impacts were detected during the Coffey DSI (Coffey, 2017a). An area of approximately 5m square was excavated to a depth of 0.2m below ground level at locations TP04, TP13 and TP21. Excavated asbestos impacted fill material was placed directly into a truck and removed from site.

The walls and base of each excavation were observed and no asbestos containing material (ACM) was evident. Validation samples were subsequently collected from the walls of the excavation by the Coffey environmental scientist. The base of the excavation was still within fill material, so a base sample was also collected for laboratory analysis. Soil samples were submitted for laboratory analysis for asbestos (quantitative). Photographs of the soil condition following excavation are provided in Appendix B. The walls and base of each excavation was visually inspected by a Licensed Asbestos Accessor<sup>1</sup>.

Coffey prepared a waste classification for the asbestos impacted fill (Ref: SYDEN205656-R02, dated 15 November 2017). Based on information provided by Karimbla, excavated asbestos impacted material totalling 32.80 tonnes was disposed of off-site to the Suez Elizabeth Drive Landfill Facility at Kemps Creek, which is licenced to receive asbestos waste (EPL 4068). A copy of the disposal docket is provided in Appendix E.

A Notice of Intent to Remove Friable Asbestos, was issued by EarthWorx Group to SafeWork NSW, for the excavation of material surrounding TP04, TP13 and TP21. A copy of the Notice was not made available to Coffey at the time of writing. Appropriate control measures such as wetting down of material and asbestos air monitoring were undertaken during removal of asbestos impacted fill. A copy of the asbestos clearance certificate prepared by P.Clifton & Associates' licensed asbestos assessor following visual inspection of the excavations described above is provided in Appendix D<sup>1</sup>. Karimbla also provided Coffey with copies of the asbestos air monitoring reports, related to the asbestos removal works and these are presented in Appendix I.

## 7.2. Validation Sampling

Validation samples were collected for analysis from the walls and base of each excavation following removal of identified asbestos impacts, in accordance with the CMP (Coffey, 2017d). Results from validation samples allowed Coffey to conclude that no further validation sampling from this excavation was required.

The validation sampling and DSI sampling locations are shown on Figures 2 and 3.

## 7.3. Laboratory Analytical Results

Samples for laboratory analysis were identified as TP04-V1 to TP04-V5, TP13-V1 to TP13-V5 and TP21-V1 to TP21-V5. No suspected ACM was observed within the fill material during collection of 10L samples nor when samples were sieved. Laboratory certificates and chain of custody records for validation samples collected from soil passing a 7mm sieve are presented in Appendix F.

No asbestos was detected at the reporting limit of 0.001% weight for weight (w/w) and no free asbestos fibres were identified in any of the validation samples of material passing the 7mm sieve which were analysed by the laboratory.

## 7.4. Visual Validation - Aesthetics

Existing fill material across the site typically includes gravel sized crushed terracotta at the surface, with thickness of the terracotta layer increasing towards Narrabeen Creek. Coffey considered that this fill material may be an aesthetic impairment to residential land within the upper 3m of the land.

<sup>&</sup>lt;sup>1</sup> Coffey notes that the asbestos clearance was undertaken on 19 January 2018 due to prior commitments of the asbestos accessor. The excavations were not backfilled or otherwise changed since the validation works.

Similarly, this material is considered to be aesthetically unacceptable to remain in the proposed riparian reserve.

The following exceedances were identified within fill material which will be relocated to beneath the road.

- Exceedance of HIL-A for Carcinogenic PAH (as benzo(a)pyrene TEQ) in fill samples HA02\_0.05-0.15.
- Exceedances of the EIL/ESLs for concentrations of nickel, zinc, TRH C16-C34 and benzo(a)pyrene were noted in six soil samples from five sampling locations (HA02, TP11, TP14, TP23 and TP26).

The CMP (Coffey, 2017d) recommended that the crushed terracotta fill be relocated from residential and riparian reserve areas to within the proposed road footprint, effectively removing the potential sensitive human health and ecological exposure pathways.

An experienced Coffey Environmental Scientist attended the site on 19 February 2018 to visually inspect the site following the relocation of crushed terracotta to the footprint of the future roadway. The following observations were made:

- All site structures had been removed.
- Concrete slab had been removed, with stockpiles of concrete present on site, which were pending removal and off-site disposal.
- The exposed surface following removal of crushed terracotta consisted of a mixture of brown/grey gravelly sands. Natural soils were exposed at the surface in areas outside of the road along the eastern and northern boundaries.
- The majority of the crushed terracotta impacted fill had been relocated to the area of the future roadway. A couple of small pockets of terracotta not beneath the road were observed in places. Coffey subsequently requested this material to be relocated to the roadway. A Meriton Site representative sent photographs to Coffey following the relocation of the material to the roadway. Coffey considered the photographs provided sufficient evidence that the material had been relocated to the road footprint.
- No asbestos fragments or any other evidence of contamination was observed across the site.

Photographs showing the condition of the site following the relocation of material to the road are presented in Appendix J.

## 7.5. Asbestos at TP33

During the addendum DSI investigation works (Coffey, 2017c), asbestos was identified in test pit TP33 at a depth of 2.3-2.4m bgs. The concentration of asbestos was reported to be below the health screening level of 0.001% weight for weight (w/w). In addition, the sample depth was 2.3 to 2.4 m bgs. Coffey understands that as this area of the site will be raised by approximately 1.1m, the depth to this asbestos impact following construction will be 3.4m bgs. Coffey concluded that the potential health risk associated with this asbestos impact during redevelopment and future site use is low.

It is noted that the Interim Advice 16098 IA4 issued by the Site Auditor on 18 January 2018, stated that the validation report should confirm that placement of sufficient fill material in the southern portion of the site is undertaken to ensure >3m of soil is above the asbestos impact at TP33. Coffey notes that as the concentration of asbestos was found to be below the health screening level (refer Table 5.1 F, Section 5), remediation of this area is not warranted.

## 7.6. Validation of Imported Construction Fill

As stated within the CMP (Coffey, 2017d), the quality of construction fill imported to raise the site level requires validation to ensure it is suitable for the intended land use. Coffey estimated an average

required thickness of additional fill to be 0.8m, which indicates a volume in place of approximately 8,300m<sup>3</sup>. Allowing for loose fill being transported by truck, the imported volume is estimated to be approximately 10,000m<sup>3</sup>.

At the time of writing this validation report, the application for redevelopment of the site has not been determined. Consequently, importation of fill material had not commenced.

Chemical characterisation to demonstrate that it is suitable for the proposed future uses of the site and confirmation that imported material is aesthetically acceptable is intended and will be addressed an update of this report following validation.

## 8. Conclusions & Recommendations

Based on site observations and findings of the validation sampling programme (supplemented with site observations and data obtained during the Coffey (2017a and 2017c) DSI), Coffey concludes that:

- Previously identified asbestos impacted fill at locations TP04, TP13 and TP21 (Coffey DSI, 2017a) has been excavated and disposed to a facility licensed to receive special (asbestos) waste, in accordance with Coffey's classification under the Waste Classification Guidelines (NSW EPA, 2014).
- Remaining fill material around location TP04, TP13 and TP21 following removal of asbestos impacted fill has been validated as suitable for planned future use in accordance with the CMP (Coffey, 2017d).
- Based on landfill weighbridge dockets provided by Karimbla, asbestos impacted fill totalling approximately 32.80 tonnes was excavated from location TP04, TP13 and TP21 and disposed of appropriately off-site to a landfill licensed to receive special (asbestos) waste.

Visual inspection confirmed that aesthetically unacceptable soils have been relocated to the footprint of the proposed roadway and that soils identified with chemical impacts slightly above certain HIL-A and EIL/ESL values have also been relocated to beneath the future road where risk potential is considered acceptable. Given the above, Coffey considers that unacceptable risk posed by isolated incidence of asbestos impacted fill and HIL-A and EIL/ESL exceedances to future construction workers and other future site occupants has been eliminated, and that the site is considered suitable for the planned future land use, being residential with accessible soils.

Coffey understands that ground levels in the area covered by the proposed road and residential development require raising using imported fill material to reduce the risk of flooding. An addendum to this report will be issued after inspection and validation of imported fill to confirm that the site remains suitable for proposed residential use as a result of these earthworks. We recommend that, if required, the unexpected finds procedure (UFP) outlined in the CMP be implemented during bulk earth works, including excavation of the stormwater detention ponds outside the access road. A copy of the UFP (extracted from the Coffey (2017) CMP) is provided in Appendix G.

We draw your attention to the attached sheets titled "Important Information about your Coffey Environmental Report" which should be read in conjunction with this report.

## 9. References

Coffey (2016), *Preliminary Site Investigation* (PSI), *2 Macpherson Street, Warriewood NSW* (reference: GEOTLCOV25237AB-AC Rev1, dated 29 October, 2016).

Coffey (2017a); *Detailed Site Investigation – 2 Macpherson Street, Warriewood NSW* (Ref: SYDEN205656-R01; dated 16 August, 2017)

Coffey (2017b); Waste Classification for Asbestos Impacted Fill, 2 Macpherson Street, Warriewood NSW (Ref: SYDEN205656-R03; dated 15 November, 2017)

Coffey (2017c); Addendum to Detailed Site Investigation Report, 2 Macpherson Street, Warriewood NSW (Ref: SYDEN205656-R04; dated 16 August, 2017)

Coffey (2017d) Contamination Management Plan – 2 Macpherson Street, Warriewood NSW (Ref: SYDEN205656-R02 Revision 1, dated 20 December 2017).

NEPC (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999 (amended 2013). National Environment Protection Council.

NSW EPA (2014). Waste Classification Guidelines, Part 1: Classifying Waste. New South Wales Environment Protection Authority.

NSW OEH (2011). Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites. NSW Office of Environment and Heritage.

ZOIC (2018). Site Auditor Interim Advice No. 4 – Endorsement of amended Contamination Management Plan (CMP) for 2 Macpherson Street, Warriewood NSW, 2102. Dated 18 January 2018, reference: 16098 IA 4 18 Jan 2018\_Final.docx



## Important information about your **Coffey** Environmental Report

#### Introduction

This report has been prepared by Coffey for you, as Coffey's client, in accordance with our agreed purpose, scope, schedule and budget.

The report has been prepared using accepted procedures and practices of the consulting profession at the time it was prepared, and the opinions, recommendations and conclusions set out in the report are made in accordance with generally accepted principles and practices of that profession.

The report is based on information gained from environmental conditions (including assessment of some or all of soil, groundwater, vapour and surface water) and supplemented by reported data of the local area and professional experience. Assessment has been scoped with consideration to industry standards, regulations, guidelines and your specific requirements, including budget and timing. The characterisation of site conditions is an interpretation of information collected during assessment, in accordance with industry practice,

This interpretation is not a complete description of all material on or in the vicinity of the site, due to the inherent variation in spatial and temporal patterns of contaminant presence and impact in the natural environment. Coffey may have also relied on data and other information provided by you and other qualified individuals in preparing this report. Coffey has not verified the accuracy or completeness of such data or information except as otherwise stated in the report. For these reasons the report must be regarded as interpretative, in accordance with industry standards and practice, rather than being a definitive record.

# Your report has been written for a specific purpose

Your report has been developed for a specific purpose as agreed by us and applies only to the site or area investigated. Unless otherwise stated in the report, this report cannot be applied to an adjacent site or area, nor can it be used when the nature of the specific purpose changes from that which we agreed.

For each purpose, a tailored approach to the assessment of potential soil and groundwater contamination is required. In most cases, a key objective is to identify, and if possible quantify, risks that both recognised and potential contamination pose in the context of the agreed purpose. Such risks may be financial (for example, clean up costs or constraints on site use) and/or physical (for example, potential health risks to users of the site or the general public).

#### Limitations of the Report

The work was conducted, and the report has been prepared, in response to an agreed purpose and scope, within time and budgetary constraints, and in reliance on certain data and information made available to Coffey.

The analyses, evaluations, opinions and conclusions presented in this report are based on that purpose and scope, requirements, data or information, and they could change if such requirements or data are inaccurate or incomplete.

This report is valid as of the date of preparation. The condition of the site (including subsurface conditions) and extent or nature of contamination or other environmental hazards can change over time, as a result of either natural processes or human influence. Coffey should be kept appraised of any such events and should be consulted for further investigations if any changes are noted, particularly during construction activities where excavations often reveal subsurface conditions.

In addition, advancements in professional practice regarding contaminated land and changes in applicable statues and/or guidelines may affect the validity of this report. Consequently, the currency of conclusions and recommendations in this report should be verified if you propose to use this report more than 6 months after its date of issue.

The report does not include the evaluation or assessment of potential geotechnical engineering constraints of the site.

#### Interpretation of factual data

Environmental site assessments identify actual conditions only at those points where samples are taken and on the date collected. Data derived from indirect field measurements, and sometimes other reports on the site, are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact with respect to the report purpose and recommended actions.

Variations in soil and groundwater conditions may occur between test or sample locations and actual conditions may differ from those inferred to exist. No environmental assessment program, no matter how comprehensive, can reveal all subsurface details and anomalies. Similarly, no professional, no matter how well qualified, can reveal what is hidden by earth, rock or changed through time.

The actual interface between different materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions.

For this reason, parties involved with land acquisition, management and/or redevelopment should retain the services of a suitably qualified and experienced environmental consultant through the development and use of the site to identify variances, conduct additional tests if required, and recommend solutions to unexpected conditions or other unrecognised features encountered on site. Coffey would be pleased to assist with any investigation or advice in such circumstances.

#### **Recommendations in this report**

This report assumes, in accordance with industry practice, that the site conditions recognised through discrete sampling are representative of actual conditions throughout the investigation area. Recommendations are based on the resulting interpretation.

Should further data be obtained that differs from the data on which the report recommendations are based (such as through excavation or other additional assessment), then the recommendations would need to be revised and may need to be revised.

#### Report for benefit of client

Unless otherwise agreed between us, the report has been prepared for your benefit and no other party. Other parties should not rely upon the report or the accuracy or completeness of any recommendation and should make their own enquiries and obtain independent advice in relation to such matters.

Coffey assumes no responsibility and will not be liable to any other person or organisation for, or in relation to, any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report.

To avoid misuse of the information presented in your report, we recommend that Coffey be consulted before the report is provided to another party who may not be familiar with the background and the purpose of the report. In particular, an environmental disclosure report for a property vendor may not be suitable for satisfying the needs of that property's purchaser. This report should not be applied for any purpose other than that stated in the report.

#### Interpretation by other professionals

Costly problems can occur when other professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, a suitably qualified and experienced environmental consultant should be retained to explain the implications of the report to other professionals referring to the report and then review plans and specifications produced to see how other professionals have incorporated the report findings.

Given Coffey prepared the report and has familiarity with the site, Coffey is well placed to provide such

Coffey Environments Australia Pty Ltd ABN 65 140 765 902 Issued: 22 October 2013 assistance. If another party is engaged to interpret the recommendations of the report, there is a risk that the contents of the report may be misinterpreted and Coffey disowns any responsibility for such misinterpretation.

#### Data should not be separated from the report

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way. Logs, figures, laboratory data, drawings, etc. are customarily included in our reports and are developed by scientists or engineers based on their interpretation of field logs, field testing and laboratory evaluation of samples. This information should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

This report should be reproduced in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

#### **Responsibility**

Environmental reporting relies on interpretation of factual information using professional judgement and opinion and has a level of uncertainty attached to it, which is much less exact than other design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. As noted earlier, the recommendations and findings set out in this report should only be regarded as interpretive and should not be taken as accurate and complete information about all environmental media at all depths and locations across the site. Validation Report 2 Macpherson Street, Warriewood NSW

Figures

Coffey SYDEN205656-R05 19 July 2019



PLOT DATE: 23/01/2018 9:10/05 AM DWG FILE: F/1, PROJECTS11, SYDENEV/2017/SYDEN206868 MERITON WARRIEWOOD DSI/CAD/754-SYDEN206865-R05.DWG


figure no:	





LEGEND	
8	VALIDATION SAMPLE LOCATION
-	ADDITIONAL TEST PIT LOCATION
-	TEST PIT LOCATION
	LOT BOUNDARY
	AUDIT BOUNDARY
	ROAD
	RESIDENTIAL AREA
	RIPARIAN ZONE

#### **Tables**



#### TABLE 1 Soil Analytical Results - DSI 2017a 2 Macpherson Street, Warriewood

									BTEY				1				Horbi	icidos				1	Inorganics				M	atale						
					Asbestos	ene Benzene Benzene	Ethylbenzene	Toluene	Xylene (m & p)	Xylene (o)	Xylene Total	C6-C10 less BTEX (F1)	2,4,5-Trichlorophenoxy acetic acid	a 2,4,5-TP (Silvex)	2,4-Dichlorophenoxy acetic acid	2,4-Dichlorprop	4-(2,4-Dichlorophenoxy) butyric acid (2,4-DB)	ad Actril (loxynil)	Dicamba	2-Methyl-4-chlorophenoxy acetic acid	2-Methyl-4-Chlorophenoxy butanoic acid	Mecoprop	୧ Moisture Content (dried @ 103℃)	Arsenic	Cadmium	Chromium	Copper	Fead	Mercury	nickel	Zinc	4,4-DDE	DHR PHC	Aldrin
FOI						0.1	0.1	0.1	0.2	0.1	0.3	20	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	111g/ kg	0.4	5 111g/ kg	5	5	0.1	5	5	0.05	0.05	0.05
NEPM 2013 EIL																							_	110		200	120	1270		40	350			
NEPM 2013 ESLs UI	ban residential	and public open space, Coar	rse Soil			50	70	85			105																							
NEPM 2013 HSLs Ro	esidential A Soil	0m to <1m				0.5	55	160			40	45																						
NEPM 2013 HILs Re	sidential A Soil				Detect								600		900					600	600	600		100	20		6000	300	40	400	7400			
CRC Care, 2011 - HS	L-A Driect Conta	act				100	4500	14,000			12,000	29,000																						
CRC Care, 2011 - In	trusive Mainten	ance Worker				120,000	130,000	85,000				82,000																		4				
NEPM, 2013 Manag	gement Limits											700																						
et al la con		Complete State	6		1																													
FIEID	LocCode	sample_Depth (m)	Sampled_Date	Matrix_Description		-0.1	-0.1	.0.4	.0.0	-0.1	-0.2	(20)	-0 F	-05	-0 F	-0.5	-0 F	-05	-0.5	-0.5	-0 F	10.5	12	27	-0.1	1.1	50	140	.0.1		50	10.05	10.05	10.05
HA02 0 05 0 15	HAU1	0.15-0.3	15/05/2017	FIII	· ·	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	2.1	<0.4	11	10	110	- <0.1	5.3	53	<0.05	<0.05	<0.05
HA02_0.05-0.15	HAUZ	0.05-0.15	17/05/2017	FIII	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	9.6	<2	<0.4	15	19	22		- 1/		<0.05	<0.05	<0.05
HAU2_0.4-0.5		0.4-0.5	17/05/2017		· · ·						-			-	- - C F	-	-			-	-	- - C E	15	-		- 20	-	-			- 11	<0.05		
HA04_0.0-0.2	HA04	0.1-0.2	17/05/2017	Fill		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	13	2.4	<0.4	16	7.6	30	<0.1	5	66	<0.05	<0.05	<0.05
HA05_0 1-0 3	HA05	0.1-0.3	17/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	13	2.1	<0.4	14	10	16	<0.1	97	46	<0.05	<0.05	<0.05
TP01_0.1-0.2	TP01	0.1-0.2	16/05/2017	Fill	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	21	<2	<0.4	38	27	23	<0.1	37	100	<0.05	<0.05	<0.05
TP02 0.4-0.5	TP02	0.4-0.5	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	21	3.6	<0.4	12	9.8	96	<0.1	<5	68	<0.05	<0.05	<0.05
TP03 0.05-0.15	TP03	0.05-0.15	16/05/2017	Fill	· .	-	-	-	-	-	-		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	11	-	-	-	-	-		-	-	-	-	-
TP03 0.4-0.5	TP03	0.4-0.5	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	-	-	-	-	-	-	-	-	-	-	10	4.3	<0.4	49	23	110	<0.1	32	100	<0.05	<0.05	< 0.05
TP03 0.7-0.8	TP03	0.7-0.8	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	· ·	-	-	-	-	-	-	-	-	-	19	2.2	<0.4	9.2	11	60	<0.1	6.3	25	< 0.05	< 0.05	< 0.05
TP04_0.05-0.15	TP04	0.05-0.15	16/05/2017	Fill	Asbestos detected	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	<2	<0.4	5.1	5.1	11	<0.1	<5	54	<0.05	< 0.05	< 0.05
TP05_0.05-0.15	TP05	0.05-0.15	16/05/2017	Fill	ND	· ·	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05_0.5-0.6	TP05	0.5-0.6	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	15	3.2	<0.4	9.8	11	41	<0.1	5.2	73	<0.05	< 0.05	< 0.05
TP05_0.9-1.0	TP05	0.9-1	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	-	-	-	-	-	-	-	-	-	-	22	2.5	<0.4	14	<5	13	<0.1	<5	43	<0.05	<0.05	<0.05
TP06_0.05-0.15	TP06	0.05-0.15	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	9.2	<2	<0.4	23	15	14	<0.1	23	35	<0.05	<0.05	< 0.05
TP07_0.05-0.15	TP07	0.05-0.15	16/05/2017	Fill	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	3.5	<0.4	14	6.3	13	<0.1	6.9	14	<0.05	<0.05	< 0.05
TP08_0.05-0.15	TP08	0.05-0.15	16/05/2017	Fill	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	<2	<0.4	<5	<5	38	<0.1	<5	58	<0.05	<0.05	< 0.05
TP09_0.6-0.8	TP09	0.6-0.8	16/05/2017	Natural	· ·	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	25	7.3	<0.4	22	<5	25	<0.1	<5	<5	< 0.05	<0.05	<0.05
1P10_0.05-0.15	11/10	0.05-0.15	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	14	4.1	<0.4	12	<5	19	<0.1	- <5		<0.05	<0.05	<0.05
TP12 0.05-0.15	TD12	0.05-0.15	16/05/2017	Fill		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<u.5< td=""><td>&lt;0.5</td><td><v.5< td=""><td>9.1</td><td>4.1</td><td>&lt;0.4</td><td>29</td><td>1.1</td><td>ð.ð</td><td>- &lt;0.1</td><td>- 10</td><td>14</td><td>&lt;0.05</td><td>&lt;0.05</td><td>- &lt;0.05</td></v.5<></td></u.5<>	<0.5	<v.5< td=""><td>9.1</td><td>4.1</td><td>&lt;0.4</td><td>29</td><td>1.1</td><td>ð.ð</td><td>- &lt;0.1</td><td>- 10</td><td>14</td><td>&lt;0.05</td><td>&lt;0.05</td><td>- &lt;0.05</td></v.5<>	9.1	4.1	<0.4	29	1.1	ð.ð	- <0.1	- 10	14	<0.05	<0.05	- <0.05
TP12_0.03-0.13	TP12	0.6-0.8	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<05	- <0 5	<05	<05	<0.5	<0.5	<0.5	<0.5	<0.5	- 22	2.6	<0.4	55	5.6	150		77	34	<0.05	<0.05	<0.05
TP13 0.05-0.15	TP13	0.05-0.15	16/05/2017	Fill	Asbestos detected	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.6	2.7	<0.4	14	23	15	<0.1	20	76	0.09	<0.05	<0.05
TP14_0.05-0.15	TP14	0.05-0.15	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6.6	<2	<0.4	40	53	19	<0.1	41	57	< 0.05	<0.05	<0.05
TP15_0.05-0.15	TP15	0.05-0.15	16/05/2017	Fill	· ·	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	11	<2	<0.4	<5	<5	<5	<0.1	<5	<5	<0.05	<0.05	< 0.05
TP16_0.1-0.3	TP16	0.1-0.3	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	33	2.3	<0.4	30	19	18	<0.1	35	90	<0.05	<0.05	< 0.05
TP17_0.05-0.15	TP17	0.05-0.15	16/05/2017	Fill	MD	-	-	-	-	-	-	-	•	-	-	-	-	-	-	-	-	•	-	-	-	-	-	-	-	-	-	-	-	-
TP17_0.5-0.6	TP17	0.5-0.6	16/05/2017	Natural	•	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	16	2.2	<0.4	7.6	<5	6.3	<0.1	<5	20	<0.05	<0.05	< 0.05
TP18_0.2-0.3	TP18	0.2-0.3	16/05/2017	Fill	ND	· ·	-	-	-	-	-	-	· ·	-	-	-	-	-	-	-	-	-	-	-	<u>↓ - </u> ]	-	-	-	-		<u> </u>	<u> </u>	<u> </u>	-
TP18_0.4-0.5	TP18	0.4-0.5	16/05/2017	Natural		<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	13	4.3	<0.4	<5	8.2	<5	<0.1	<5	5.8	0.43	<0.05	< 0.05
TP19_0.1-0.2	TP19	0.1-0.2	16/05/2017	Fill	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	9.2	<2	<0.4	11	13	11	<0.1	9.9	28	<0.05	<0.05	<0.05
TP20_0.05-0.2	TP20	0.05-0.2	16/05/2017		ND Ashestos datastad	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	15	2.5	<0.4	32	16	8.2	<0.1	- 31	40	0.07	<0.05	<0.05
TP22 05 06	TD22	0.1-0.2	16/05/2017	Fill	Aspesios delected	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	10	4.5	<0.4	18	15	23	<0.1 <0.1	- 13	35	<0.05	<0.05	
TP23_0.1-0.3	TP23	0.5-0.0	16/05/2017	Fill	· ·	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	19	2.4	<0.4	26	18	74	- ×0.1 <0.1	41	27	0.06	<0.05	<0.05
TP24 0.2-0.4	TP24	0.2-0.4	16/05/2017	Fill	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	22	2.2	<0.4	6.8	7.7	8.8	<0.1	<5	22	<0.05	<0.05	<0.05
TP24 0.5-0.6	TP24	0.5-0.6	16/05/2017	Natural	· ·	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	-	-	-	-	-	-	-	-	-	-	16	4.7	<0.4	7.2	8.5	8	<0.1	<5	16	0.07	<0.05	<0.05
TP25_0.1-0.2	TP25	0.1-0.2	16/05/2017	Fill	· ·	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	20	<2	<0.4	10	26	10	<0.1	8.4	87	<0.05	<0.05	< 0.05
 TP26_0.2-0.3	TP26	0.2-0.3	16/05/2017	Fill	· ·	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	17	<2	<0.4	<5	<5	5.3	<0.1	<5	370	<0.05	<0.05	< 0.05
TP27_0.1-0.2	TP27	0.1-0.2	16/05/2017	Fill	ND	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	3.2	<0.4	19	11	12	<0.1	15	52	<0.05	<0.05	<0.05
TP28_0.1-0.2	TP28	0.1-0.2	16/05/2017	Fill	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-		-	-	-	-	-	<u> </u>	-	-	-
TP28_0.5-0.6	TP28	0.5-0.6	16/05/2017	Natural	-	<0.1	<0.1	<0.1	<0.2	<0.1	<0.3	<20	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	16	5.1	<0.4	5.7	10	8.6	<0.1	<5	34	0.21	<0.05	<0.05

TP28\_0.5-0.6 Notes: 'ND' = Non Detect

' - ' = Not Analysed



# TABLE 1 Soil Analytical Results - DSI 2017a 2 Macpherson Street, Warriewood

								ОСР																								
	DH8-q mg/kg	Chlordane	C Happ	QQQ mg/kg	LOQ mg/kg	Dieldrin	Endosulfan I	Endosulfan II Badra	Endosulfan sulphate	in na lika In na lika	Endrin aldehyde	Endrin ketone	ag B-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor	Toxaphene	Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	chlorpyrifos	chlorpyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	ay)ad Disulfoton	ethion ethorop	/ke me/kg
FOL	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	0.2	0.2	0.2	0.2	0.2	2	0.2	0.2	0.2	0.2 (	.2	0.2	0.2 0.2	2 0.2
NEPM 2013 EIL					3																									-		
NEPM 2013 ESLs Urban residential and public open space, Coarse Soil																																
NEPM 2013 HSLs Residential A Soil 0m to <1m																																
NEPM 2013 HILs Residential A Soil		50								10				6		10	300	20				160										
CRC Care, 2011 - HSL-A Driect Contact																																
CRC Care, 2011 - Intrusive Maintenance Worker																																
NEPM, 2013 Management Limits																																

PMC         PMC        PMC        PMC        PMC        PMC        PMC        PMC        PMC        PMC        PMC        PMC        PMC        PMC        PMC       PMC      PMC       PMC       PMC	Field_ID	LocCode	Sample_Depth (m)	Sampled_Date	Matrix_Description																																	
Mail Mark Mark Mark Mark Mark Mark Mark Mark	HA01_0.15-0.3	HA01	0.15-0.3	16/05/2017	Fill	<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	<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
Seed A         Seed A         Seed A         Seed A         See A        See A        See A        See A <td>HA02_0.05-0.15</td> <td>HA02</td> <td>0.05-0.15</td> <td>17/05/2017</td> <td>Fill</td> <td>&lt;0.05</td> <td>&lt;0.1</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;1</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td>	HA02_0.05-0.15	HA02	0.05-0.15	17/05/2017	Fill	<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	<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
Humb         Humb        Humb        Humb        Humb        Humb       Humb       Humb        Humb	HA02_0.4-0.5	HA02	0.4-0.5	17/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- I	-
944      94	HA03_0.1-0.2	HA03	0.1-0.2	17/05/2017	Fill	< 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	<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
104      10	HA04_0.0-0.2	HA04	0-0.2	17/05/2017	Fill	< 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	<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
Phie	HA05_0.1-0.3	HA05	0.1-0.3	17/05/2017	Fill	< 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	<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
PHC	TP01_0.1-0.2	TP01	0.1-0.2	16/05/2017	Fill	<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	<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
mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm	TP02_0.4-0.5	TP02	0.4-0.5	16/05/2017	Fill	< 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	<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
mm      los      los      ms	TP03_0.05-0.15	TP03	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- I	-
1000000000000000000000000000000000000	TP03_0.4-0.5	TP03	0.4-0.5	16/05/2017	Fill	<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	<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
PMC4         BMC4         BMC4         PMC4         PMC4        PMC4        PMC4        PMC4        PMC4        PMC4        PMC4      PMC4       PMC4 <th<< td=""><td>TP03_0.7-0.8</td><td>TP03</td><td>0.7-0.8</td><td>16/05/2017</td><td>Fill</td><td>&lt;0.05</td><td>&lt;0.1</td><td>&lt;0.05</td><td>&lt; 0.05</td><td>&lt;0.05</td><td>0.41</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt;0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt;0.05</td><td>&lt;1</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td></th<<>	TP03_0.7-0.8	TP03	0.7-0.8	16/05/2017	Fill	<0.05	<0.1	<0.05	< 0.05	<0.05	0.41	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<1	<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
Proc         065.05         HigGADD7         Fin         Fin        Fin        Fin         Fin         Fin         Fin        Fin         Fin         Fin         Fin         Fin        Fin       Fin         Fin         Fin   <	TP04_0.05-0.15	TP04	0.05-0.15	16/05/2017	Fill	<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	<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
Pires 9164 9166 9166 9166 9167 916 </td <td>TP05_0.05-0.15</td> <td>TP05</td> <td>0.05-0.15</td> <td>16/05/2017</td> <td>Fill</td> <td>-</td> <td>- I</td> <td>-</td>	TP05_0.05-0.15	TP05	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- I	-
	TP05_0.5-0.6	TP05	0.5-0.6	16/05/2017	Fill	<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	<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
</td <td>TP05_0.9-1.0</td> <td>TP05</td> <td>0.9-1</td> <td>16/05/2017</td> <td>Fill</td> <td>&lt;0.05</td> <td>&lt;0.1</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;1</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td>	TP05_0.9-1.0	TP05	0.9-1	16/05/2017	Fill	<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	<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
1000         1000         1000         1000         100         0.00        0.00        0.00        0.00        0.00        0.00        0.00        0.00        0.00        0.00        0.00        0.00 <td< td=""><td>TP06_0.05-0.15</td><td>TP06</td><td>0.05-0.15</td><td>16/05/2017</td><td>Fill</td><td>&lt;0.05</td><td>&lt;0.1</td><td>&lt;0.05</td><td>&lt; 0.05</td><td>&lt;0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt;0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt;0.05</td><td>&lt;1</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td><td>&lt;0.2</td></td<>	TP06_0.05-0.15	TP06	0.05-0.15	16/05/2017	Fill	<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	<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
1000         1000         1000         1000         0000        0000        0000        0000        0000        0000        0000       0000        0000       <	TP07_0.05-0.15	TP07	0.05-0.15	16/05/2017	Fill	<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	<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
100         66.8         66.8         66.8         6.9        6.9        6.9        6.9        6.9        6.9        6.9        6.9        6.9        6.9        6.9        6.9        6.9        6.9        6.9      6.9      6.9	TP08_0.05-0.15	TP08	0.05-0.15	16/05/2017	Fill	<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	<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
1010       05015       105017       1010       000       010       05015       105017       1000       000 <td>TP09_0.6-0.8</td> <td>TP09</td> <td>0.6-0.8</td> <td>16/05/2017</td> <td>Natural</td> <td>&lt;0.05</td> <td>&lt;0.1</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;1</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td>	TP09_0.6-0.8	TP09	0.6-0.8	16/05/2017	Natural	<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	<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
P111       08-51       08-50      08-50       08-50       0	TP10_0.05-0.15	TP10	0.05-0.15	16/05/2017	Fill	<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	<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
P12_06545         P16         Obs2         P16         P16      P16        P16        P16	TP11_0.05-0.15	TP11	0.05-0.15	16/05/2017	Fill	<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	<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
111         111        111        111        <	TP12_0.05-0.15	TP12	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
111         111        111         111       <	TP12_0.6-0.8	TP12	0.6-0.8	16/05/2017	Fill	<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	<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
TP4 00505         1607         Fill         05         01         0507         Fill         0507         Fill        0507       Fill         0507	TP13_0.05-0.15	TP13	0.05-0.15	16/05/2017	Fill	<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	< 0.05	< 0.05	<0.05	<1	<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
Picp 0.95.05         Picp 0.95.05       Picp 0.95.05        Pic	TP14_0.05-0.15	TP14	0.05-0.15	16/05/2017	Fill	<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	<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
TP16         0.9.3         1060/207         Fill         0.0.4       0.0.4 <td>TP15_0.05-0.15</td> <td>TP15</td> <td>0.05-0.15</td> <td>16/05/2017</td> <td>Fill</td> <td>&lt;0.05</td> <td>&lt;0.1</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;1</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td>	TP15_0.05-0.15	TP15	0.05-0.15	16/05/2017	Fill	<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	<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
TP12       080.15       600.507       Hill       -      -       -     -     <	TP16_0.1-0.3	TP16	0.1-0.3	16/05/2017	Fill	<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	<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
TP1       5.6.6       16/6/207       Naturi       0.0	TP17_0.05-0.15	TP17	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
TP18         Q2.3         H66/2017         Fill         G      G        G        G       G        G	TP17_0.5-0.6	TP17	0.5-0.6	16/05/2017	Natural	<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	<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
TP18       04.05       16/2017       Num<       0.05       0.1       0.05      0.05      0.05      0.05     <	TP18_0.2-0.3	TP18	0.2-0.3	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
TP19       1.02       1.05/2017       Fill       0.05       0.0       0.05       0.0       0.05      0.05      0.05      0.05     <	TP18_0.4-0.5	TP18	0.4-0.5	16/05/2017	Natural	<0.05	<0.1	<0.05	0.54	<0.05	<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	<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
TP2       0.902       160/017       Fill       0.00       0.0      0.0      0.0     <	TP19_0.1-0.2	TP19	0.1-0.2	16/05/2017	Fill	<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	<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
TP1       100       100/070       FII       0.00      0.00      0.00 </td <td>TP20_0.05-0.2</td> <td>TP20</td> <td>0.05-0.2</td> <td>16/05/2017</td> <td>Fill</td> <td>&lt;0.05</td> <td>&lt;0.1</td> <td>&lt;0.05</td> <td>0.08</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;1</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td>	TP20_0.05-0.2	TP20	0.05-0.2	16/05/2017	Fill	<0.05	<0.1	<0.05	0.08	<0.05	< 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	<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
TP2       0.5-0.6       160/5/0.7       Fill       0.5      0.5      0.5	TP21_0.1-0.2	TP21	0.1-0.2	16/05/2017	Fill	<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	<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
TP3       1.03       1.05/2017       Fill       0.05       0.0      0.0      0.0	TP22_0.5-0.6	TP22	0.5-0.6	16/05/2017	Fill	<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	<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
TP42       0.2.04       16/05/2017       Fill       0.0.5      0.0.5      <	TP23_0.1-0.3	TP23	0.1-0.3	16/05/2017	Fill	<0.05	<0.1	< 0.05	0.06	<0.05	< 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	<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
TP4       0.5-0.6       1605/2017       Natural       0.0 <td>TP24_0.2-0.4</td> <td>TP24</td> <td>0.2-0.4</td> <td>16/05/2017</td> <td>Fill</td> <td>&lt;0.05</td> <td>&lt;0.1</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt;0.05</td> <td>&lt;1</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td> <td>&lt;0.2</td>	TP24_0.2-0.4	TP24	0.2-0.4	16/05/2017	Fill	<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	<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
TP25_01.02       TP30       1.005/2017       Fill       0.0.0	TP24_0.5-0.6	TP24	0.5-0.6	16/05/2017	Natural	<0.05	<0.1	< 0.05	0.08	<0.05	< 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	<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
TP26_0.2.03       TP26       0.6.03       1005/2017       Fill       0.0.0	TP25_0.1-0.2	TP25	0.1-0.2	16/05/2017	Fill	<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	<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
TP27_01-02       TP27       0.1-02       16/05/2017       Fill       -0.05	TP26_0.2-0.3	TP26	0.2-0.3	16/05/2017	Fill	<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	<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
TP28_01-02       TP28       1.0.02       1.0.05/2017       Fill	TP27_0.1-0.2	TP27	0.1-0.2	16/05/2017	Fill	<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	<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
TP28       0.5-0.6       16/05/2017       Natural        0.05       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       <0.05 <td>TP28_0.1-0.2</td> <td>TP28</td> <td>0.1-0.2</td> <td>16/05/2017</td> <td>Fill</td> <td>-</td> <td>- 1</td> <td>-</td>	TP28_0.1-0.2	TP28	0.1-0.2	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 1	-
	TP28_0.5-0.6	TP28	0.5-0.6	16/05/2017	Natural	< 0.05	< 0.1	< 0.05	0.17	<0.05	< 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	<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

<u>Notes</u>: ' ND' = Non Detect

' - ' = Not Analysed



# TABLE 1 Soil Analytical Results - DSI 2017a 2 Macpherson Street, Warriewood

		c	OPP																										PAH					
	ky/mg/mg/kg	Fenthion 2 mg/kg	Mai at hion	Merphos	Methyl parathion	wevinphos (Phosdrin)	Monocrotophos	mg/kg	Omethoate	barathion 2/2	Phorate	kg mg	2000 /kg mi	Pyrazophos By/Rennel	s/k/ stirophos	Terbufos Terbufos	g, mg/kg	Tetrachlorvinphos	Tokuthion Mag/kg	Acenaphthene	M/skm Mg/skm	Anthracene Waki	bay Benzo(a)anthracene	mg/kg	MOREN Sound) *	) MS/ My Benzo(a)pyrene TEQ (medium bound) *	Solution (a)pyrene TEQ (upper bound) *	kg/kg	benzo(k)fluoranthene	Chrysene Wag	ස් කිරී සිත්ර Benzo[b+j]fluoranthene	bibenz(a,h)anthracene	Bluoranthene market	g/g/glnorene
FOL	0,2	0,2	0.2	0,2	0,2	0,2	2	0.2	2	02	0 2		5 (	12 02	0,5	0,2	0.2	0,2	0,2	0,0	0.5	0.5	0,5	0,5	0.5	0.5	0.5	0,0	0,5	0,5	0.5	0.5	0.5 (	05
NFPM 2013 FIL	0.12	512	512	512	512		_	512	-	0.2	0.2	- 0.			0.5	0.2	0.12	5.2	512	5.5	5.15	210	210	515	515	515	210	515	210	2.15	2.10			-
NEPM 2013 ESLs Urban residential and public open space. Coarse Soil																								0.7										
NEPM 2013 HSLs Residential A Soil 0m to <1m																																		
NEPM 2013 HILs Residential A Soil																									3	3	3							
CRC Care, 2011 - HSL-A Driect Contact																																		
CRC Care, 2011 - Intrusive Maintenance Worker																																		
NEPM, 2013 Management Limits																																		

Field_ID	LocCode	Sample_Depth (m)	Sampled_Date	Matrix_Description																																		
HA01_0.15-0.3	HA01	0.15-0.3	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
HA02_0.05-0.15	HA02	0.05-0.15	17/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	0.6	3	3.5	5.5	5.5	5.5	2.2	2.9	3.1	2.7	0.9	5.5	<0.5
HA02_0.4-0.5	HA02	0.4-0.5	17/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	0.5	0.5	0.9	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5
HA03_0.1-0.2	HA03	0.1-0.2	17/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
HA04_0.0-0.2	HA04	0-0.2	17/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
HA05_0.1-0.3	HA05	0.1-0.3	17/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	0.6	<0.5
TP01_0.1-0.2	TP01	0.1-0.2	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP02_0.4-0.5	TP02	0.4-0.5	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP03_0.05-0.15	TP03	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03_0.4-0.5	TP03	0.4-0.5	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<0.2	-	-	<0.5	<0.5	<0.5	<0.5	0.7	0.8	1.1	1.4	0.8	<0.5	<0.5	0.8	<0.5	0.6	<0.5
TP03_0.7-0.8	TP03	0.7-0.8	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	0.6	<0.5
TP04_0.05-0.15	TP04	0.05-0.15	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	0.7	<0.5
TP05_0.05-0.15	TP05	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05_0.5-0.6	TP05	0.5-0.6	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP05_0.9-1.0	TP05	0.9-1	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP06_0.05-0.15	TP06	0.05-0.15	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP07_0.05-0.15	TP07	0.05-0.15	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP08_0.05-0.15	TP08	0.05-0.15	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP09_0.6-0.8	TP09	0.6-0.8	16/05/2017	Natural	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP10_0.05-0.15	TP10	0.05-0.15	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP11_0.05-0.15	TP11	0.05-0.15	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<0.2	-	-	<0.5	<0.5	<0.5	0.8	1.1	1.5	1.7	2	1.2	0.7	1	1.1	<0.5	1.6	<0.5
TP12_0.05-0.15	TP12	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP12_0.6-0.8	TP12	0.6-0.8	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP13_0.05-0.15	TP13	0.05-0.15	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP14_0.05-0.15	TP14	0.05-0.15	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.5	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<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	<0.5	<0.5	<0.5
TP15_0.05-0.15	TP15	0.05-0.15	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP16_0.1-0.3	TP16	0.1-0.3	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP17_0.05-0.15	TP17	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP17_0.5-0.6	TP17	0.5-0.6	16/05/2017	Natural	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP18_0.2-0.3	TP18	0.2-0.3	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP18_0.4-0.5	TP18	0.4-0.5	16/05/2017	Natural	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP19_0.1-0.2	TP19	0.1-0.2	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP20_0.05-0.2	TP20	0.05-0.2	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP21_0.1-0.2	TP21	0.1-0.2	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP22_0.5-0.6	TP22	0.5-0.6	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP23_0.1-0.3	TP23	0.1-0.3	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP24_0.2-0.4	TP24	0.2-0.4	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP24_0.5-0.6	TP24	0.5-0.6	16/05/2017	Natural	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP25_0.1-0.2	TP25	0.1-0.2	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP26_0.2-0.3	TP26	0.2-0.3	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP27_0.1-0.2	TP27	0.1-0.2	16/05/2017	Fill	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
TP28_0.1-0.2	TP28	0.1-0.2	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP28_0.5-0.6	TP28	0.5-0.6	16/05/2017	Natural	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	-	<0.2	<0.2	-	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5
Netee																																						

<u>Notes</u>: 'ND' = Non Detect

'-'= Not Analysed



# TABLE 1 Soil Analytical Results - DSI 2017a 2 Macpherson Street, Warriewood

					Р	esticide	s	Phe	nol			Polyc	hlorinat	ed Biph	enyls			SVOCs					TF	ч				
au         au         au         au           mg/kg         mg/kg         mg/kg         mg/kg         rg/kg         rg/kg				Total PAHs	Demeton (total)	Pirimiphos-methyl	Profenofos	4,6-Dinitro-2-methylphenol	Dinoseb	Arochlor 1221	Aroclor 1016	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Sum of total)	EPN	F2-NAPHTHALENE	се - сэ	C10 - C14	C15 - C28	C29 - C36	C10 - C36 (Sum of total)	C10-C16	C16-C34	C34-C40	C6 - C10
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
0.5	0.5	0.5	0.5	0.5	1	0.2	0.2	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	50	20	20	50	50	50	50	100	100	20
	170																											
																			120							300	2800	180
																			110									
euspiel         mg/kg         mg/l           mg/kg         mg/l         mg/l           mg/l         mg/l         mg/l																	1											
	1400																		3300									
	1100																		62,000									
																			1000							2500	10,000	

					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	1	0.2	0.2	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	50	20	20	50	50	50	50	100	100	20
NEPM 2013 EIL						170																											
NEPM 2013 ESLs Urb	oan residential	and public open space, Coar	se Soil																					120							300	2800	180
NEPM 2013 HSLs Res	sidential A Soil	0m to <1m																						110									
NEPM 2013 HILs Res	idential A Soil								300													1											
CRC Care, 2011 - HSL	-A Driect Cont	act				1400																		3300									4
CRC Care, 2011 - Intr	usive Mainter	ance Worker				1100																		62,000									
NEPM, 2013 Manage	ement Limits																							1000							2500	10,000	
Field_ID	LocCode	Sample_Depth (m)	Sampled_Date	Matrix_Description																													
HA01_0.15-0.3	HA01	0.15-0.3	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.2	-	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
HA02_0.05-0.15	HA02	0.05-0.15	17/05/2017	Fill	1.9	<0.5	1	5.5	32.8	-	<0.2	-	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	310	760	1070	<50	1000	530	<20
HA02_0.4-0.5	HA02	0.4-0.5	17/05/2017	Fill	<0.5	<0.5	<0.5	0.8	2.1	-	<0.2	-	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	310	760	1070	<50	<100	530	<20
HA03_0.1-0.2	HA03	0.1-0.2	17/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.2	-	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
HA04_0.0-0.2	HA04	0-0.2	17/05/2017	Fill	<0.5	< 0.5	<0.5	<0.5	<0.5	-	<0.2	-	<0.5	< 0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
HA05_0.1-0.3	HA05	0.1-0.3	17/05/2017	Fill	<0.5	< 0.5	<0.5	0.6	1.2	-	<0.2	-	<0.5	< 0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	54	54	<50	<100	<100	<20
TP01_0.1-0.2	TP01	0.1-0.2	16/05/2017	Fill	<0.5	< 0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	< 0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP02_0.4-0.5	TP02	0.4-0.5	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP03_0.05-0.15	TP03	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP03_0.4-0.5	TP03	0.4-0.5	16/05/2017	Fill	<0.5	<0.5	<0.5	0.7	3.6	<1	<0.2	<0.2	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	120	190	310	<50	240	170	<20
TP03_0.7-0.8	TP03	0.7-0.8	16/05/2017	Fill	<0.5	<0.5	<0.5	0.7	1.3	<1	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	61	61	<50	<100	<100	<20
TP04_0.05-0.15	TP04	0.05-0.15	16/05/2017	Fill	<0.5	<0.5	<0.5	0.6	1.3	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	87	130	217	<50	170	<100	<20
TP05_0.05-0.15	TP05	0.05-0.15	16/05/2017	Fill	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TP05_0.5-0.6	1P05	0.5-0.6	16/05/2017	FIII	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	100	110	210	<50	1/0	<100	<20
TP05_0.9-1.0	TP05	0.9-1	16/05/2017	FIII	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	66	66	<50	<100	<100	<20
TP06_0.05-0.15	1P06	0.05-0.15	16/05/2017	FIII	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP07_0.05-0.15	TP07	0.05-0.15	16/05/2017	FIII	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP08_0.05-0.15	1908	0.05-0.15	16/05/2017	FIII	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP09_0.6-0.8	TP09	0.6-0.8	16/05/2017	Natural	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP10_0.05-0.15	TP10	0.05-0.15	16/05/2017		<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP11_0.05-0.15	TP11	0.05-0.15	16/05/2017		0.8	<0.5	<0.5	1.7	10	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP12_0.05-0.15	TP12	0.05-0.15	16/05/2017		-		-	-			-	-		-	-	-	-	-	-	-	-	-		-			-	-	-	-	-	<100	
TP12_0.6-0.8	TP12	0.05-0.8	16/05/2017		<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP15_0.05-0.15	TD14	0.05-0.15	16/05/2017		<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP14_0.05-0.15	TD15	0.05-0.15	16/05/2017		<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.2	<0.2	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50 E4	<50 E4	<50	<100	<100	<20
TP15_0.05-0.15	TD16	0.05-0.15	16/05/2017		<0.5	<0.5	<0.5	<0.5	<0.5		<0.2	<0.2	<0.5	<0.5									<0.2	<50	<20	<20	<50	-54 -50	54	<50	<100	<100	<20
TP17_0.05-0.15	TD17	0.05-0.15	16/05/2017	Fill	~0.5	~0.5	~0.5	~0.5	~0.5		~0.2	-	<u>\</u> 0.5	~0.5	<u>\0.1</u>	~0.1	~0.1	~0.1	<u>\0.1</u>	<u>\U.1</u>	<u>\0.1</u>	<u>\0.1</u>	<u>\0.2</u>	~50	~20	~20	<u>\</u>	<u>\</u>	~50	~30	~100	100	+ ~20
TP17_0.5-0.6	TP17	0.5-0.6	16/05/2017	Natural	<05	<05	<05	<05	<05		<0.2		<0.5	<05	<0.1	<0.1	<01	<0.1	<0.1	<0.1	<0.1	<01	<0.2	<50	<20	<20	<50	<50	<50	<50	- <100	<100	<20
TP18 0 2-0 3	TP18	0.2-0.3	16/05/2017	Fill		-0.5		-0.5	-0.5				-0.5	-0.5				~0.1	-0.1	-0.1	-0.1	-0.1	-0.2		-20	-20					~100		
TP18_0.4-0.5	TP18	0.4-0.5	16/05/2017	Natural	<0.5	<05	<0.5	<05	<0.5		<0.2	-	<0.5	<0.5	<0.1	<0.1	<01	<01	<0.1	<0.1	<0.1	<01	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP19 0 1-0 2	TP19	0 1-0 2	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5		<0.2	-	<0.5	<0.5								-	<0.2	<50	<20	20	<50	<50	<50	<50	<100	<100	<20
TP20_0.05-0.2	TP20	0.05-0.2	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5		<0.2	-	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP21_0.1-0.2	TP21	0.1-0.2	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5		<0.2	-	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP22_0.1-0.2	TP22	0.5-0.6	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5		<0.2	-	<0.5	<0.5	-	-	-	-	_	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP23_01-03	TP23	0.1-0.3	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5		<0.2	-	<0.5	<0.5	-	-	-	-	_	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP24_0 2-0 4	TP24	0.2-0.4	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.2	-	<0.5	<0.5		-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP24_0.5-0.6	TP24	0.5-0.6	16/05/2017	Natural	<0.5	<0.5	<0.5	<0.5	<0.5		<0.2	-			-	-	-		_				<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP25_0.1-0.2	TP25	0.1-0.2	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.2	-	<0.5	<0.5		-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP26_0.2-0.3	TP26	0.2-0.3	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.2	-	<0.5	<0.5		-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP27_0.1-0.2	TP27	0.1-0.2	16/05/2017	Fill	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.2	-	<0.5	<0.5		-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP28_0.1-0.2	TP28	0.1-0.2	16/05/2017	Fill	-	-	-	-	-	· ·	-	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-			
TP28 0.5-0 6	TP28	0.5-0.6	16/05/2017	Natural	<0.5	<0.5	<0.5	<0.5	<0.5		<0.2	-	<0.5	<0.5				-					<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
0.0 0.0	5	1.0 0.0	10,00,2017			.0.5			.0.5				.3.5	.5.5			1							.50	-20	-20		.50	.50	.50	-200		-20

<u>Notes</u>: 'ND' = Non Detect '-' = Not Analysed

Karimbla



A LETRA LEGN COMPANY					BTEX								Herbi	cides					Inorganics			
	Asbestos	Benzene	. Ethylbenzene	Toluene	, Xylene (m & p)	Xylene (o)	. Xylene Total	C6-C10 less BTEX (F1)	, 2,4,5-Trichlorophenoxy acetic acid	, 2,4,5-TP (Silvex)	2,4-Dichlorophenoxy acetic acid	, 2,4-Dichlorprop	, 4-(2,4-Dichlorophenoxy) butyric acid (2,4-DB)	, Actril (loxynil)	, Dicamba	2-Methyl-4-chlorophenoxy acetic acid	2-Methyl-4-Chlorophenoxy butanoic acid	Mecoprop	. Moisture Content (dried @ 103°C)	, Arsenic	Cadmium	Chromium
FO1		0.1	0.1	0 1		0.1	111g/кg	111g/ Kg											70	під/кд		
EQL NEDNA 2012 EU		0.1	0.1	0.1	0.2	0.1	0.5	20	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	1	110	0.4	20
NEPM 2013 ELE		50	70	85			105													110		20
NEPM 2013 HSLs Residential A Soil 0m to <1m		0.5	55	160			40	45														
NEPM 2013 HILs Residential A Soil	Detect								600		900					600	600	600	L	100	20	
CRC Care, 2011 - HSL-A Driect Contact		100	4500	14,000			12,000	29,000														
CRC Care, 2011 - Intrusive Maintenance Worker		120,000	130,000	85,000				82,000														
NEPM, 2013 Management Limits								700														

Field_ID LocCode Sample_Depth_Sampled_Date-Time Ma	latrix_Description
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| P29_0.1-0.2<br>P29_0.8-1.0<br>P30_0.0-0.2          | 29/11/2017<br>29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | < 0.1   | <0.3  | <20   | <0.5  | -0 F  | .0.5   | -0 F   | -0 F  
   
  | -0 F  | -0 F   | -0 F  | -0 F   | -0 F   
  | 4.0   | 27   
   | .0.4  
  | 20   | 0  | 22   
  | .0.4  | 4.4  
  | 10  | .0.05   | .0.05  | -0.05                                  | -0.05  | 0.05  |
|--|--|---|---|---|---|--|---|---|---|---|---|---|--|--
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---|---|--|--|--|---|
| P29_0.8-1.0<br>P30_0.0-0.2                         | 29/11/2017   |   |   |   |   |  |   |   | .0.0  | ~20   | <b>\U.J</b>   | <0.5  | <0.5   | <0.5   | <0.5  
   
  | < 0.5   | <0.5   | <0.5  | <0.5   | <0.5   
  | 10  | 3.7  
   | <0.4  
  | 28   | 9  | 22   
  | <0.1  | 11   
  | 46  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P30_0.0-0.2  | 20/11/2017   |   | -   | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | -   | -   | -  | -  | -   
   
  | -   | -  | -   | -  | -  
  | 24  | 5.8  
   | <0.4  
  | 21   | <5   | 19   
  | <0.1  | <5   
  | 5.3   | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
|  | 29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 11  | <2   
   | <0.4  
  | 14   | 6  | 26   
  | <0.1  | <5   
  | 69  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P30_0.5-0.6  | 29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 19  | 2.4  
   | <0.4  
  | 18   | 29   | 50   
  | <0.1  | 9.1  
  | 43  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P31_0.1-0.2  | 29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 16  | 2.8  
   | <0.4  
  | 23   | 13   | 28   
  | <0.1  | 14   
  | 17  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P31_1.0-1.1  | 29/11/2017   |   | -   | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | -   | -   | -  | -  | -   
   
  | -   | -  | -   | -  | -  
  | 13  | 7.8  
   | <0.4  
  | <5   | <5   | <5   
  | <0.1  | <5   
  | <5  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P32_0.1-0.2  | 29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 7.7   | <2   
   | <0.4  
  | 7.8  | <5   | 19   
  | <0.1  | <5   
  | 17  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P32_0.5-0.6  | 29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 5.6   | 2  
   | <0.4  
  | 34   | 40   | 28   
  | <0.1  | 63   
  | 68  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P33_0.1-0.2  | 29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 10  | <2   
   | <0.4  
  | 5.2  | <5   | 9.1  
  | <0.1  | <5   
  | 5.3   | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P33_0.5-0.6  | 29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 23  | 5.5  
   | <0.4  
  | 32   | 5.6  | 16   
  | <0.1  | <5   
  | 12  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P33_2.3-2.4  | 29/11/2017   |   | 0.00059%w/w   | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 23  | 7  
   | <0.4  
  | 38   | <5   | 18   
  | <0.1  | <5   
  | 15  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P34_0.2-0.3  | 29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 12  | 2.8  
   | <0.4  
  | 34   | 22   | 17   
  | <0.1  | 29   
  | 62  | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P34_0.5-0.7  | 29/11/2017   |   | ND  | <0.1  | <0.1  | <0.1   | <0.2  | <0.1  | <0.3  | <20   | <0.5  | <0.5  | <0.5   | <0.5   | <0.5  
   
  | <0.5  | <0.5   | <0.5  | <0.5   | <0.5   
  | 19  | 6.5  
   | <0.4  
  | 11   | 28   | 29   
  | <0.1  | <5   
  | 120   | <0.05   | <0.05  | <0.05                                  | <0.05  | <0.05   |
| P3<br>P3<br>P3<br>P3<br>P3<br>P3<br>P3<br>P3<br>P3 | 0_0.5-0.6<br>1_0.1-0.2<br>1_1.0-1.1<br>2_0.1-0.2<br>2_0.5-0.6<br>3_0.1-0.2<br>3_0.5-0.6<br>3_2.3-2.4<br>4_0.2-0.3<br>4_0.5-0.7 | 0_0.5-0.6         29/11/2017           1_0.1-0.2         29/11/2017           1_0.1-1.1         29/11/2017           2_0.1-0.2         29/11/2017           2_0.5-0.6         29/11/2017           3_0.1-0.2         29/11/2017           3_0.5-0.6         29/11/2017           3_2.3-2.4         29/11/2017           4_0.2-0.3         29/11/2017           4_0.5-0.7         29/11/2017 | 0_0.5-0.6         29/11/2017           1_0.1-0.2         29/11/2017           1_0.1-1.1         29/11/2017           2_0.1-0.2         29/11/2017           2_0.5-0.6         29/11/2017           3_0.1-0.2         29/11/2017           3_0.5-0.6         29/11/2017           3_2.3-2.4         29/11/2017           4_0.2-0.3         29/11/2017           4_0.5-0.7         29/11/2017 | 0_0.5-0.6         29/11/2017         ND           1_0.1-0.2         29/11/2017         ND           1_0.1-0.1         29/11/2017            2_0.1-0.2         29/11/2017         ND           2_0.5-0.6         29/11/2017         ND           3_0.1-0.2         29/11/2017         ND           3_0.5-0.6         29/11/2017         ND           3_2.3-2.4         29/11/2017         ND           4_0.2-0.3         29/11/2017         ND | 0_0.5-0.6         29/11/2017         ND         <0.1           1_0.1-0.2         29/11/2017         ND         <0.1 | 0_0.5-0.6         29/11/2017         ND         <0.1         <0.1           1_0.1-0.2         29/11/2017         ND         <0.1 | 0_0.5-0.6         29/11/2017         ND         <0.1         <0.1         <0.1           1_0.1-0.2         29/11/2017         ND         <0.1 | 0_0.5·0.6         29/11/2017         ND         <0.1         <0.1         <0.2           1_0.1·0.2         29/11/2017         ND         <0.1 | 0_0.5-0.6         29/11/2017         ND         <0.1         <0.1         <0.1         <0.2         <0.1           1_0.1-0.2         29/11/2017         ND         <0.1 | 0_0.5-0.6         29/11/2017         ND         <0.1         <0.1         <0.2         <0.1         <0.3           1_0.1-0.2         29/11/2017         ND         <0.1 | 0_0.5·0.6         29/11/2017         ND         <0.1         <0.1         <0.2         <0.1         <0.3         <20           1_0.1·0.2         29/11/2017         ND         <0.1 | 0_0.5.06         29/11/2017         ND         <0.1         <0.1         <0.2         <0.1         <0.3         <20         <0.5           1_0.1-0.2         29/11/2017         ND         <0.1 | 0_0.5.06         29/11/2017         ND         <0.1         <0.1         <0.2         <0.1         <0.3         <20         <0.5         <0.5           1_0.1-0.2         29/11/2017         ND         <0.1 | 0_0.5.06         29/11/2017         ND         <0.1         <0.1         <0.2         <0.1         <0.3         <0.2         <0.5         <0.5         <0.5           1_0.1-0.2         29/11/2017         ND         <0.1 | $0_0.5.0.6$ $29/1/2017$ ND $<0.1$ $<0.1$ $<0.1$ $<0.2$ $<0.1$ $<0.3$ $<0.2$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ $<0.5$ <t<
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   9/1/2017       ND       ND       v0.1       v0.1</td><td>0.05069/1/2079/1NDND0.1&lt;</td><td>0.05.069/1/207MD</td><td>0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.</td><td>0.0.506       9/1/207       9.0       0.0       0.1       0.0        0.0</td><td>0.0506       9/1/2070       0.0        0.0      0.0</td></td></td></td></td></td></td></td> | $0_{0}.5\cdot.6$ $29/1/2017$ ND $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ < | $0_{0}.5.6.6$ $29/1/2017$ ND $0.0$ $0$ | $0_{0}.5\cdot.6$ $29/1/2017$ ND $<0.1$ $<0.1$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.1$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ $<0.2$ < | $0_{0}.5 \cdot 0.6$ $29/1/2017$ ND $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ $<0.1$ | $0_{0}.5 \cdot .6$ $29/1/2017$ ND $(0.1)$ | 0.05.06 $29/1/207$ ND $ND$ $0.1$
<td>0.05.0699/1/2017ND<td>0.05.0699/1/207ND<td>0.05.069/1/207MD</td><td>0.0.5.069/1/20790.1ND<!--</td--><td>0.0.5.069/1/207MD<td>0.0.5.6.69/1/207ND<td>0.05.069/1/2017MD<td>0.05.06       9/1/2017       ND       ND       v0.1       v0.1</td><td>0.05069/1/2079/1NDND0.1&lt;</td><td>0.05.069/1/207MD</td><td>0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.</td><td>0.0.506       9/1/207       9.0       0.0       0.1       0.0        0.0</td><td>0.0506       9/1/2070       0.0        0.0      0.0</td></td></td></td></td></td></td> | 0.05.0699/1/2017ND <td>0.05.0699/1/207ND<td>0.05.069/1/207MD</td><td>0.0.5.069/1/20790.1ND<!--</td--><td>0.0.5.069/1/207MD<td>0.0.5.6.69/1/207ND<td>0.05.069/1/2017MD<td>0.05.06       9/1/2017       ND       ND       v0.1       v0.1</td><td>0.05069/1/2079/1NDND0.1&lt;</td><td>0.05.069/1/207MD</td><td>0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.</td><td>0.0.506       9/1/207       9.0       0.0       0.1       0.0   
   0.0        0.0       0.0</td><td>0.0506       9/1/2070       0.0        0.0      0.0</td></td></td></td></td></td> | 0.05.0699/1/207ND <td>0.05.069/1/207MD</td> <td>0.0.5.069/1/20790.1ND<!--</td--><td>0.0.5.069/1/207MD<td>0.0.5.6.69/1/207ND<td>0.05.069/1/2017MD<td>0.05.06       9/1/2017       ND       ND       v0.1       v0.1</td><td>0.05069/1/2079/1NDND0.1&lt;</td><td>0.05.069/1/207MD</td><td>0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.</td><td>0.0.506       9/1/207       9.0       0.0       0.1       0.0        0.0</td><td>0.0506       9/1/2070       0.0        0.0      0.0</td></td></td></td></td> | 0.05.069/1/207MD | 0.0.5.069/1/20790.1ND </td <td>0.0.5.069/1/207MD<td>0.0.5.6.69/1/207ND<td>0.05.069/1/2017MD<td>0.05.06       9/1/2017       ND       ND       v0.1      
v0.1</td><td>0.05069/1/2079/1NDND0.1&lt;</td><td>0.05.069/1/207MD</td><td>0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.</td><td>0.0.506       9/1/207       9.0       0.0       0.1       0.0        0.0</td><td>0.0506       9/1/2070       0.0        0.0      0.0</td></td></td></td> | 0.0.5.069/1/207MD <td>0.0.5.6.69/1/207ND<td>0.05.069/1/2017MD<td>0.05.06       9/1/2017       ND       ND       v0.1       v0.1</td><td>0.05069/1/2079/1NDND0.1&lt;</td><td>0.05.069/1/207MD</td><td>0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.</td><td>0.0.506       9/1/207       9.0       0.0       0.1       0.0        0.0</td><td>0.0506       9/1/2070       0.0        0.0      0.0</td></td></td> | 0.0.5.6.69/1/207ND <td>0.05.069/1/2017MD<td>0.05.06       9/1/2017       ND       ND       v0.1       v0.1</td><td>0.05069/1/2079/1NDND0.1&lt;</td><td>0.05.069/1/207MD</td><td>0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.</td><td>0.0.506       9/1/207       9.0       0.0       0.1       0.0  
    0.0       0.0       0.0       0.0       0.0        0.0</td><td>0.0506       9/1/2070       0.0        0.0      0.0</td></td> | 0.05.069/1/2017MD <td>0.05.06       9/1/2017       ND       ND       v0.1       v0.1</td> <td>0.05069/1/2079/1NDND0.1&lt;</td> <td>0.05.069/1/207MD</td> <td>0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.</td> <td>0.0.506       9/1/207       9.0       0.0       0.1       0.0        0.0</td> <td>0.0506       9/1/2070       0.0        0.0      0.0</td> | 0.05.06       9/1/2017       ND       ND       v0.1       v0.1 | 0.05069/1/2079/1NDND0.1< | 0.05.069/1/207MD | 0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0. | 0.0.506       9/1/207       9.0       0.0       0.1       0.0        0.0 | 0.0506       9/1/2070       0.0        0.0      0.0 |





						OCP																											0
Chlordane	d-внс	DDD	DDT	DDT+DDE+DDD	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor epoxide	Hexachlorobenzene	Methoxychlor	Toxaphene	Azinophos methyl	Bolstar (Sulprofos)	Chlorfenvinphos	Chlorpyrifos	Chlor pyrifos-methyl	Coumaphos	Demeton-O	Demeton-S	Diazinon	Dichlorvos	Dimethoate	Disulfoton	Ethion	Ethoprop	Fenitrothion	Fensulfothion
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
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	1	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
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									10				6			300	20				160												
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Field ID	LocCode	Sample Depth	Sampled Date-Time	Matrix Description
	Loccouc	Jumpic_Beptil	_bumpicu_bute mile	Matrix_Bescription

EQL
NEPM 2013 EIL
NEPM 2013 ESLS Urban residential and public open space, Coarse Soil
NEPM 2013 HSLs Residential A Soil Om to <1m
NEPM 2013 HILs Residential A Soil
CRC Care, 2011 - HSL-A Driect Contact
CRC Care, 2011 - Intrusive Maintenance Worker
NEPM, 2013 Management Limits

TP29_0.1-0.2	TP29_0.1-0.2	29/11/2017	<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	<1	<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
TP29_0.8-1.0	TP29_0.8-1.0	29/11/2017	<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	<1	<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
TP30_0.0-0.2	TP30_0.0-0.2	29/11/2017	<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	<1	<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
TP30_0.5-0.6	TP30_0.5-0.6	29/11/2017	<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	<1	<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
TP31_0.1-0.2	TP31_0.1-0.2	29/11/2017	<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	<1	<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
TP31_1.0-1.1	TP31_1.0-1.1	29/11/2017	<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	<1	<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
TP32_0.1-0.2	TP32_0.1-0.2	29/11/2017	<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	<1	<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
TP32_0.5-0.6	TP32_0.5-0.6	29/11/2017	<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	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
TP33_0.1-0.2	TP33_0.1-0.2	29/11/2017	<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	<1	<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
TP33_0.5-0.6	TP33_0.5-0.6	29/11/2017	<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	<1	<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
TP33_2.3-2.4	TP33_2.3-2.4	29/11/2017	<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	<1	<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
TP34_0.2-0.3	TP34_0.2-0.3	29/11/2017	<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	<1	<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
TP34_0.5-0.7	TP34_0.5-0.7	29/11/2017	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	<1	<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



	ъР																									PAH	I								
	Fenthion	Malathion	. Merphos	Methyl parathion	, Mevinphos (Phosdrin)	Monocrotophos	Naled (Dibrom)	Omethoate	Parathion	Phorate	Pyrazophos	Ronnel	Terbufos	Trichloronate	Tetrachlorvinphos	Tokuthion	Acenaphthene	Acenaphthylene	Anthracene	, Benzo(a) anthracene	, Benzo(a)pyrene	. Benzo(a)pyrene TEQ (lower bound) *	Benzo(a)pyrene TEQ (medium bound) *	Benzo(a)pyrene TEQ (upper bound) *	Benzo(g, h, i) perylene	, Benzo(k)fluoranthene	Chrysene	Benzo[b+j]fluoranthene	Dibenz(a,h)anthracene	. Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene
	тід/кд	mg/kg	mg/kg	тід/кд	тту/ку	тту/ку	mg/kg	тід/кд	тад/кд	mg/kg	mg/kg	mg/kg	тад/кд	тід/кд	mg/kg	mg/kg	mg/kg	тід/кд	тід/кд	тад/кд	тад/кд	NG/KG		MG/KG	тад/кд	тад/кд	тту/ку	тід/кд	тту/ку	тту/ку	mg/kg	mg/kg m	g/кg те	3/ Kg   mg	3/ Kg
EQL	0.2	0.2	0.2	0.2	0.2	2	0.2	2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	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	0.5	0.5	0.5 (	0.5 0	J.5 0	).5
NEPM 2013 EIL																																1	170		
NEPM 2013 ESLs Urban residential and public open space, Coarse Soil																					0.7														
NEPM 2013 HSLs Residential A Soil 0m to <1m																																			
NEPM 2013 HILs Residential A Soil																						3	3	3											
CRC Care, 2011 - HSL-A Driect Contact																																14	400		
CRC Care, 2011 - Intrusive Maintenance Worker																																1	100		
NEPM, 2013 Management Limits																																			

#### Field\_ID LocCode Sample\_Depth\_Sampled\_Date-Time Matrix\_Description

TP29_0.1-0.2	TP29_0.1-0.2	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	0.6	0.6	1	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8
TP29_0.8-1.0	TP29_0.8-1.0	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP30_0.0-0.2	TP30_0.0-0.2	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP30_0.5-0.6	TP30_0.5-0.6	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP31_0.1-0.2	TP31_0.1-0.2	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	0.8	0.9	1.2	1.5	0.5	0.6	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	<0.5	0.5	1
TP31_1.0-1.1	TP31_1.0-1.1	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP32_0.1-0.2	TP32_0.1-0.2	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP32_0.5-0.6	TP32_0.5-0.6	29/11/2017	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	2.4	4.8	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<2	<2
TP33_0.1-0.2	TP33_0.1-0.2	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP33_0.5-0.6	TP33_0.5-0.6	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP33_2.3-2.4	TP33_2.3-2.4	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP34_0.2-0.3	TP34_0.2-0.3	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TP34_0.5-0.7	TP34_0.5-0.7	29/11/2017	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5



Formula			Pesticides	Phe	enol			Polyc	hlorina	ed Biph	enyls			SVOCs					ТРН			
Image       mg/kg       mg/kg <th< th=""><th></th><th>Total PAHs</th><th>Pirimiphos-methyl</th><th>4,6-Dinitro-2-methylphenol</th><th>Dinoseb</th><th>Arochlor 1221</th><th>Aroclor 1016</th><th>Aroclor 1232</th><th>Aroclor 1242</th><th>Aroclor 1248</th><th>Aroclor 1254</th><th>Aroclor 1260</th><th>PCBs (Sum of total)</th><th>EPN</th><th>F2-NAPHTHALENE</th><th>C6 - C9</th><th>C10 - C14</th><th>C15 - C28</th><th>C29 - C36</th><th>C10 - C36 (Sum of total)</th><th>C10-C16</th><th></th></th<>		Total PAHs	Pirimiphos-methyl	4,6-Dinitro-2-methylphenol	Dinoseb	Arochlor 1221	Aroclor 1016	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Sum of total)	EPN	F2-NAPHTHALENE	C6 - C9	C10 - C14	C15 - C28	C29 - C36	C10 - C36 (Sum of total)	C10-C16	
EQL       0.5       0.2       0.5       0.2       0.5       0.1       0		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg
NEPM 2013 EL       I <t< td=""><td></td><td>0.5</td><td>0.2</td><td>0.5</td><td>0.5</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.2</td><td>50</td><td>20</td><td>20</td><td>50</td><td>50</td><td>50</td><td>50</td><td>10</td></t<>		0.5	0.2	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	50	20	20	50	50	50	50	10
NEPM 2013 Escs Orban residential and public open space, order solid       Image: Constraint on the	NEPM 2013 EIL														120							20
NEW 2013 HILs Residential A Solid Introvential A Solid Introve	NEPM 2013 ESIS Ordan residential and public open space, Coarse Soli														120							31
NErwised into according a solution a solutite solution a solution a solution a solution a	NERM 2012 Hills Desidential A Soil	200				<b></b>			_				1		110							
CRC Care, 2011 - Intrusive Maintenance Worker Contract Co	CRC Care 2011 - HSL-A Driect Contact	300											1	_	3300							
NEDM 2013 Management limits	CRC Care 2011 - Intrusive Maintenance Worker														62 000							
	NEPM, 2013 Management Limits														1000							25

Field_ID	LocCode	Sample_Depth_Sampled_Date-Time	Matrix_Description																							
TP29_0.1-0.2	TP29_0.1-0.2	29/11/2017		2	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	79	190	269	<50	220	170	<20
TP29_0.8-1.0	TP29_0.8-1.0	29/11/2017		<0.5	<0.2	-	-	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP30_0.0-0.2	TP30_0.0-0.2	29/11/2017		<0.5	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	100	100	<50	110	130	<20
TP30_0.5-0.6	TP30_0.5-0.6	29/11/2017		<0.5	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	140	140	<50	140	170	<20
TP31_0.1-0.2	TP31_0.1-0.2	29/11/2017		4.5	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	86	170	256	<50	200	120	<20
TP31_1.0-1.1	TP31_1.0-1.1	29/11/2017		<0.5	<0.2	-	-	-	-	-	-	-	-	-	-	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP32_0.1-0.2	TP32_0.1-0.2	29/11/2017		<0.5	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP32_0.5-0.6	TP32_0.5-0.6	29/11/2017		<2	<2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<2	<50	<20	<20	<50	52	52	<50	<100	<100	<20
TP33_0.1-0.2	TP33_0.1-0.2	29/11/2017		<0.5	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP33_0.5-0.6	TP33_0.5-0.6	29/11/2017		<0.5	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP33_2.3-2.4	TP33_2.3-2.4	29/11/2017		<0.5	<0.2	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	<50	<50	<50	<100	<100	<20
TP34_0.2-0.3	TP34_0.2-0.3	29/11/2017		<0.5	<0.2	< 0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	<50	62	62	<50	<100	<100	<20
TP34_0.5-0.7	TP34_0.5-0.7	29/11/2017		<0.5	<0.2	<0.5	<0.5	< 0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<50	<20	<20	97	210	307	<50	260	<100	<20



#### Appendix A - Proposed Development Plans and Survey (Provided by Karimbla)



S OVER 251 IN DP 1245613	SCALE: 1:200 (A0)	PLAN REF.
OD (DONATO)	DATUM: AHD	124872 DETAIL & LEVELS
	DATE: 25/09/18	SHEET 1/2
OVERNMENT AREA: NORTHERN BEACHES	AREA: (TITLE)	DESIGNED: BB DRAWN: BB

JBW SURVEYORS PTY LTD CLIENT: MERITON GROUP <u>SYMBOLS</u> PROJECT: MACHPERSON STREET, WARRIEWOOD (DONATO) AUTOCAD MODEL: '124872 DETAIL & LEVELS d.DWG' ISSUED DATE: 27/09/18 REVISION : BOB DENOTES BOTTOM OF EMBANKMENT CO DENOTES CONCRETE EM DENOTES ELECTRICITY MAIN EP DENOTES ELECTRICITY POLE HY DENOTES HYDRANT INV DENOTES INVERT OF CONCRETE KERB <u>GENERAL NOTES</u> LIP DENOTES LIP OF KERB LMK DENOTES LINE MARKING CAD DIGITAL DATA : JBW SURVEYORS PTY LTD LP DENOTES LIGHT POLE MBJ DENOTES METAL BRIDGE JOINT THE INFORMATION SUPPLIED IN THIS DATA FILE IS SUPPLIED ON THE CONDITION THAT THESE GENERAL NOTES ARE ALWAYS STORED WITH THE SUPPLIED CAD DRAWING, & IF THE DATA IS PROVIDED TO ANY PARTY ON MHR DENOTES METAL HAND RAIL MGA PT DENOTES PIT PU DENOTES PIT UNKNOWN ANY FORM OF HARD COPY OR COMPUTER MEDIA THEN THESE GENERAL SI DENOTES SIGN SV DENOTES STOP VALVE NOTES WILL ALSO BE A PART OF THAT HARD MEDIA COPY OR COMPUTER MEDIA DATA. TC DENOTES TELECOMMUNICATIONS PIT TK DENOTES TOP OF CONCRETE KERB ORIGIN OF LEVELS (SCIMS-DATED 22/11/2017) SSM 24645 RL 12·360 A.H.D VIDE SCIMS TOB DENOTES TOP OF EMBANKMENT DENOTES THE APPROXIMATE SPREAD THE GRID SYSTEM SHOWN RELATES TO THE MAPPING GRID OF AUSTRALIA & LOCATION OF A TREE (MGA), THE ORIGIN OF WHICH IS: SSM 55212 E=342167.927 N=6270950.978 CLASS B ORDER 2 PM 24645 E=342542·352 N=6271024·118 CLASS B ORDER 2 AS SUPPLIED BY SCIMS DATED 22/11/2017 THE SUBJECT PROPERTY BOUNDARIES HAVE BEEN SURVEYED AND ARE SUBJECT TO LODGEMENT AND REGISTRATION AT THE LPI OF A PLAN OF REDEFINITION THE BOUNDARIES SHOULD BE SURVEYED AND MARKED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORK IMPROVEMENTS AND FEATURES SHOWN ON OR NEAR THE BOUNDARIES ARE INDICATIVE ONLY THE POSITION OF IMPROVEMENTS AND FEATURES HAVE BEEN LOCATED FOR PLOTTING PURPOSES ONLY VISIBLE SERVICES THAT HAVE BEEN SURVEYED ARE DENOTED BY ABBREVIATIONS THAT ARE REFERENCED IN THE SYMBOLS TABLE SERVICES THAT ARE DENOTED "DBYD" HAVE BEEN PLOTTED FROM INFORMATION PROVIDED FROM 'DIAL BEFORE YOU DIG' AND HAVE NOT BEEN SURVEYED UNDERGROUND SERVICES THAT ARE OF A CRITICAL NATURE SHOULD BE EXPOSED AND THEIR POSITION SURVEYED CONTOURS HAVE BEEN INTERPOLATED FROM SPOT HEIGHTS CONTOURS ARE AT 0.5 METRE INTERVALS SHEET DENSE OVERGROWN VEGETATION SHEET 2 KEYMAP DIAL BEFORE YOU DIG www.1100.com.au UNDERGROUND TELECOMMUNICATIONS CABLES AS APPROXIMATELY SHOWN N THE DIAL BEFORE DIG SKETCH THE POSITION OF UNDERGROUND SERVICES SHOWN ARE APPROXIMATE ONLY BASED ON PLANS RECEIVED FROM DIAL BEFORE YOU DIG. NOTE: THE SUPPLIED MAPS FROM AUTHORITIES SHOWING THE RELEVANT SERVICES DOES NOT APPEAR TO SHOW THE NEWLY CONSTRUCTED WORKS ALONG MACPHERSON STREET. JOB REFERENCE No. 15502547 DATED 26/09/2019. WHERE UNDERGROUND SERVICES ARE LOCATED RELATIVE TO CRITICAL DESIGN ELEMENTS, SERVICES SHOULD BE PHYSICALLY EXPOSED AND SURVEYED PRIOR TO DETAILED DESIGN, EXCAVATION AND CONSTRUCTION. RAISED ACCESSWAY WITH VISIBLE CRUSHED CONSTRUCTION MATERIAL 2--+ SEC C D.P. 5464 JBW Surveyors Pty Ltd. ACN 001149373 Level 7, 376 Bay Street Brighton-Le-Sands NSW 2216 Phone: (02) 9335 9700 Fax: (02) 9556 3100 www.jbwsurveyors.com.au Liability limited by a scheme approved under Professional Standards Legislation.



# 2 MACPHERSON STREET, WARRIEWOOD EARLY WORKS 1000-SERIES CIVIL WORKS PACKAGE

## DRAWING LIST

DAC1070

DAC1001	COVER SHEET AND LOCALITY PLAN		
DAC1002	GENERAL NOTES	DAC1080	SEDIMENTATION AN
		DAC1081	SEDIMENTATION AN
DAC1005	GENERAL ARRANGEMENT PLAN	DAC1082	SEDIMENTATION AN
DAC1006	TYPICAL SECTIONS SHEET 1 OF 2		INTEDNAL STODMIA
DAC1000	TYPICAL SECTIONS SHEET 2 OF 2	DACIUJU	INTERNAL STORTW
Driciour		DAC1100	TURNING PATH PLA
DAC1010	SITEWORKS AND STORMWATER PLAN SHEET 1	DAC1101	TURNING PATH PLA
DAC1011	SITEWORKS AND STORMWATER PLAN SHEET 2		
		DAC1110	NARRABEEN CREEK
DAC1015	BULK EARTHWORKS PLAN		
		DAC1115	
DACIVZV	SITE WORKS DETAILS	DACTIO	
DAC1021	STORMWATER DETAILS SHEET 1 OF 3		
DAC1022	STORMWATER DETAILS SHEET 2 OF 3		
DAC1023	STORMWATER DETAILS SHEET 3 OF 3		
DAC1030	PAVEMENT PLAN, SIGNAGE AND LINEMARKING PLAN		
	ΜΓΩΊΙ ΩΝΟΙΤΙΙΠΙΝΑΙ SECTION		
DACION			
DAC1050	MC01 CROSS SECTIONS SHEET 1		
DAC1051	MC01 CROSS SECTIONS SHEET 2		
DAC1052	MC01 CROSS SECTIONS SHEET 3		
	MC01 CROSS SECTIONS SHEET 4		
DAL 1054	MLVILKUSS SELTIONS SHEET 6		
	MC01 CROSS SECTIONS SHEET 0		
DAC1057	MC01 CROSS SECTIONS SHEET 8		

F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
C	ISSUE FOR APPROVAL	30-10-18
В	ISSUE FOR COMMENT	25-10-18
А	ISSUE FOR COMMENT	24-10-18
Issue	Description	Date

SERVICES AND UTILITIES COORDINATION PLAN

ND EROSION CONTROL PLAN ND EROSION CONTROL DETAILS ND EROSION CONTROL CALCULATIONS

WATER CATCHMENT PLAN

AN SHEET 1 AN SHEET 2

K PLAN

LONGITUDINAL SECTION TYPICAL SECTIONS



	Client	Scales	NTS	Drawn	GJ	Proje
THIS DRAWING CANNOT BE				Designed	GJ	]
ANY FORM OR USED FOR ANY		Grid	MGA	Checked	AT	
OTHER PURPOSE OTHER THAN	Level 11, 528 Kent Street, Sydney NSW 2000	Height Datum	AHD	Approved		T:41-
WITHOUT THE WRITTEN PERMISSION OF AT&L	Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au			•		- Title

F:\18-580 Warriewood Meriton\6.0 Drgs\Civil\Final\1000 Series - Early Works\DAC1001.dwg

DAC1001

18-580

# SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY JBW SURVEYORS, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. AT & L DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT AT & L.

THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.

THE INFORMATION SUPPLIED IN THIS DATA FILE IS SUPPLIED ON THE CONDITION THAT THESE GENERAL NOTES ARE ALWAYS STORED WITH THE SUPPLIED CAD DRAWING & IF THE DATA IS PROVIDED TO ANY PARTY ON ANY FORM OF HARD COPY OR COMPUTER MEDIA THEN THESE GENERAL NOTES WILL ALSO BE A PART OF THAT HARD MEDIA COPY OR COMPUTER MEDIA DATA.

THE RECORDS OF THE SERVICE AUTHORITIES HAVE NOT BEEN INVESTIGATED ONLY THOSE SERVICES VISIBLE AT THE TIME OF SURVEY HAVE BEEN SHOWN.

THE RECORDS OF THE SERVICE AUTHORITIES SHOULD BE INVESTIGATED AS TO THE LOCATION OF SERVICES PRIOR TO THE COMMENCEMENT OF ANY DETAILED DESIGN OR CONSTRUCTION WORKS.

THE POSITION OF IMPROVEMENT AND FEATURES HAVE BEEN LOCATED FOR PLOTTING PURPOSES ONLY.

IMPROVEMENTS AND FEATURES SHOWN ON OR NEAR THE BOUNDARIES ARE INDICATIVE ONLY.

LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD) THE ORIGIN OF WHICH IS PM 55212, RL 4.641 AHD AS SUPPLIED BY SCIMS DATED 9/12/2004.

THE BOUNDARIES HAVE NOT BEEN SURVEYED, DIMENSIONS HAVE BEEN COMPILED FROM THE SUBJECT DEPOSITED PLANS AND ARE SUBJECT TO FINAL SURVEY.

THE BOUNDARIES SHOULD BE SURVEYED AND MARKED PRIOR TO THE COMMENCEMENT OF ANY CONSTRICTION WORK.

CONTOURS SHOWN ARE AT 0.5 METRE INTERVALS.



CONTRACTOR SHALL CALL; DIAL BEFORE YOU DIG 1100 PRIOR TO COMMENCEMENT OF WORK TO OBTAIN ALL CURRENT SERVICE AUTHORITY PLANS

#### CONCRETE NOTES

- 1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- 2. CONCRETE QUALITY ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

ELEMENT	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZI
VEHICULAR BASE KERBS, PATHS, AND PITS	32 32	60 80	20 20

- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL - PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.

- 3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY AT & L.
- 4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
- 5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS, BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
- 6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R83.
- 7. REINFORCEMENT SYMBOLS: N DENOTES GRADE 450 N BARS TO AS 1302 GRADE N R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 1302

SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304 NUMBER OF BARS IN GROUP



NOMINAL BAR SIZE IN mm THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.

8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:

LAP TWO WIRES

## STORMWATER DRAINAGE NOTES

- 1. STORMWATER DESIGN CRITERIA: (A) AVERAGE RECURRENCE INTERVAL
- 1:100 YEARS ROOFED AREAS TO SURCHARGE PIT 1:20 YEARS EXTERNAL PAVEMENTS (B) RAINFALL INTENSITIES:
- TIME OF CONCENTRATION: 5 MINUTES 1:100 YEARS= 262.0 mm/hr 1:20 YEARS= 204.0 mm/hr
- (C) RUNOFF COEFFICIENTS: ROOF AREAS:
- C100 =1.0 EXTERNAL PAVEMENTS: C20 =1.0
- 2. PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
- 3. PIPES UP TO 300 DIA SHALL BE SEWER GRADE UPVC WITH SOLVENT
- WELDED JOINTS. 4. EQUIVALENT STRENGTH VCP OR FRC PIPES MAY BE USED.
- 5. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE UPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE UPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT
- 6. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (1989) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- 7. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2
- 8. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY AT & L.
- 9. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
- 10. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
- 11. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL. 12. GRATES AND COVERS SHALL CONFORM TO AS 3996.
- 13. ALL INTERNAL PIT DIMENSIONS TO CONFORM TO AS3500.3 TABLE 8.2. 14. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- 15. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

Bar Scales ISSUE FOR APPROVAL 28-03-1 ISSUE FOR APPROVAL 10-12-18 07-12-18 ISSUE FOR APPROVAL 30-10-1 ISSUE FOR APPROVAL 25-10-18 ISSUE FOR COMMENT ISSUE FOR COMMENT 24-10-18 Date Description 100mm on Original

# SITEWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.

2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO AT & L.

3. MAKE SMOOTH CONNECTION WITH EXISTING WORKS.

- 4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- 5. ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- . PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
- 7. ASPHALTIC CONCRETE SHALL CONFORM TO RMS SPECIFICATION R116.
- 8. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS FORM 3051 (UNBOUND), RMS FORM 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m<sup>3</sup> OF BASECOURSE MATERIAL PLACED.
- 9. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS FORM 3051, 3051.1 AND COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m<sup>3</sup>OF SUB-BASE COURSE MATERIAL PLACED.
- 10. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH RMS FORM 3051 AND 3051.1 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF AT & L.
- I. SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
- 12. WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eq. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.
- 13. CIVIL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF BOTANY BAY COUNCIL CIVIL WORKS SPECIFICATIONS 2013. WHERE ANY AMBIGUITY BETWEEN AT&L SPECIFICATIONS AND COUNCIL SPECIFICATIONS EXIST, COUNCIL SPECIFICATIONS TAKES PRECEDENCE.
- 14. INSPECTIONS ARE TO BE UNDERTAKEN IN ACCORDANCE WITH AN APPROVED INSPECTION REGISTER.

## EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.

AT & L CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY

- INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.
- CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
- CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
- CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.
- AL SURFACE LIDS/FITTINGS TO BE ADJUSTED TO SUIT FINISHED SURFACE LEVELS.

## **KERBING NOTES**

- 1. ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32MPa U.N.O IN REINFORCED CONCRETE NOTES.
- 2. ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 98% MODIFIED DRY DENSITY (AS 1289 5.2.1).
- 3. EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- 4. WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- 5. BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
- 6. IN THE REPLACEMENT OF KERB AND GUTTER :-EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 600mm WIDE U.N.O.
- 7. EXISTING KERB AND GUTTER IS TO BE COMPLETELY REMOVED WHERE NEW KERB AND GUTTER IS SHOWN.

# JOINTING NOTES

#### PEDESTRIAN PAVEMENT JOINTS

- 1. ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS. (U.N.O) 2. EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT
- POINTS OF CURVES AND ELSEWHERE AT MAX. 6.0m CENTRES. 3. WEAKENED PLANE JOINTS ARE TO BE LOCATED AT A MAX. SPACING OF
- 1.5 x WIDTH OF THE PAVEMENT.
- 4. WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.
- 5. PEDESTRIAN PAVEMENT JOINT DETAIL.



- VEHICULAR PAVEMENT JOINTS
- 6. ALL VEHICULAR PAVEMENTS TO BE JOINTED AS FOLLOWS. (U.N.O)
- 7. KEYED CONSTRUCTION JOINTS SHOULD GENERALLY BE LOCATED AT A MAX OF 6.0m CENTRES
- 8. SAWN JOINTS SHOULD GENERALLY BE LOCATED AT A MAX OF 6.0m CENTRES WITH DOWELED EXPANSION JOINTS AT MAX 18.0m CENTRES
- 9. VEHICULAR PAVEMENT JOINT DETAIL.



# EROSION AND SEDIMENT CONTROL NOTES

#### GENERAL INSTRUCTIONS

- 1. THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
- 2. ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH a. LOCAL AUTHORITY REQUIREMENTS **b. EPA REQUIREMENTS** c. NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH
- 3. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
- 4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF
- 5. CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

#### LAND DISTURBANCE

- 6. WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE
- (A) INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
- (B) CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
- (C) INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN. (D) UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE
- DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

#### EROSION CONTROL

- 7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
- 8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

#### SEDIMENT CONTROL

- 9. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
- 10. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
- 11. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
- 12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

#### OTHER MATTERS

- 13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
- 14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY: (A) PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
- (B) ENSURING THAT NOTHING IS NAILED TO THEM
- (C) PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
- (I) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
- (II) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
- (III) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

						-
	Client	Scales	NTS	Drawn	GJ	<sup>Project</sup> 2 MACPHERSON STREET
THIS DRAWING CANNOT BE				Designed	GJ	WARRIEWOOD
ANY FORM OR USED FOR ANY	CONSTRUCTION SERVICES (NSW)	Grid	MGA	Checked	AT	EARLY WORKS
OTHER PURPOSE OTHER THAN		Height	AHD	Approved		PACKAGE
THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au	Datum			1	GENERAL NOTES

Drawing No.

DAC1002

Civil Engineers and Project Managers

FOR APPROVAL

NOT TO BE USED FOR CONSTRUCTIO

Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777

A1

Issue

Fax: 02 9460 8413

www.atl.net.au info@atl.net.au

Project No.

18-580

ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.



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FUTURE LOTS SUBJECT TO SEPARATE APPROVAL	
	SEF

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EXISTING SURFACE LEVEL

VERGE TO BE TURFED ONLY. WORKS WITHIN THIS AREA SUBJECT TO SEPARATE DEVELOPMENT APPLICATION

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FUTURE LOTS SUBJECT TO SEPARATE APPROVAL -----

EXISTING SURFACE LEVEL

G F E D C B A Issue	ISSUE FOR APPROVAL28-03-19ISSUE FOR APPROVAL12-12-18ISSUE FOR APPROVAL10-12-18ISSUE FOR APPROVAL07-12-18ISSUE FOR APPROVAL07-12-18ISSUE FOR APPROVAL30-10-18ISSUE FOR COMMENT25-10-18ISSUE FOR COMMENT24-10-18DescriptionDate	Bar Scales 0 1 2 3 4 5m 1 : 50 @ A1 1 : 100 @ A3	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Scales 1:50@A1 Grid MGA Height Datum AHD	Drawn Designed Checked Approved	GJ GJ AT	Proje
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- PROPOSED RETAINING WALL. TYPE INDICATIVE ONLY. TO BE CONFIRMED

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	Civil Engineers and Project Managers				
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2 <sup>ct</sup> MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE	Civil Engineers	igineers and Project Managers         Level 7, 153 Walker Street         North Sydney NSW 2060         ABN 96 130 882 405         Tel:       02 9439 1777         Fax:       02 9460 8413         www.atl.net.au       info@atl.net.au         No.       Project No.       A1	
TYPICAL SECTIONS	FOR AF	PROVAL	A1
SHEET 2 OF 2	Drawing No. $DAC1007$	Project No. <b>18_580</b>	Issue
		10-000	

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CUT (m³)	FILL (m³)	VOLUME (m³)
-6	15,127	+14,165
0	2,448	+2,205
-6,027	131	-6,708
-6,033	17,706	
		+9,662 (IMPORT)







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В	ISSUE FOR COMMENT 25	-18					PERMISSION OF AT&L	Email: info@design.meriton.com.au					
А	ISSUE FOR COMMENT 24	)-18	1	:20 (@ A1	1:40 (@ A3			Internet: http://www.meriton.com.au					
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<sup>®</sup> 2 <sup>°</sup> MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE	Civil Engineers	and Project Managers Level 7, 153 Wal North Sydney NS ABN 96 130 882 Tel: 02 9439 Fax: 02 9460 8 www.atl.net.au info@atl.net.au	lker Street SW 2060 405 1777 8413
SITEWORKS	Status FOR AF NOT TO BE USED	PROVAL FOR CONSTRUCTION	A1
DETAILS	Drawing No.	Project No.	Issue
	DAC1020	18-580	F



FABRIC/COV					
'SL'					
SL72					

PIPE DIA.	WIDTH	DEPTH	WALL	FABRIC/COV
ʻdØʻ	'W'	'D'	'Τ'	'SL'
600	850	1200	150	SL72
	850	1600	150	SL72
	850	2000	150	SL72
	850	2400	150	SL72
675	940	1200	150	SL72
	940	1600	150	SL72
	940	2000	150	SL72
	940	2400	150	SL72
750	1020	1200	150	SL72
	1020	1600	150	SL72
	1020	2000	150	SL72
	1020	2400	150	SL72
825	1100	1600	150	SL72
	1100	2000	150	SL72
	1100	2400	150	SL72
900	1180	1600	150	SL72
	1180	2000	150	SL72
	1180	2400	150	SL72
1050	1345	1600	150	SL92
	1345	2000	150	SL92
	1345	2400	150	SL92
1200	1510	2000	150	SL102
	1510	2400	150	SL102
	1510	2800	150	SL102

100mm on Original

COVER OR GRATE AND FRAME AS SPECIFIED REFER PIT SCHEDULE

RECESS TO SUIT COVER OR FRAME ---

		Client	Scales	AS SHOWN	Drawn	GJ	Proj
	THIS DRAWING CANNOT BE				Designed	GJ	'
	ANY FORM OR USED FOR ANY	CONSTRUCTION SERVICES (NSW)	Grid	MGA	Checked	AT	
O' T	OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Level 11, 528 Kent Street, Sydney NSW 2000	Height Datum	AHD	Approved		Title
		Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au					nue

![](_page_59_Figure_9.jpeg)

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F	ISSUE FOR APPROVAL	28-03-19
E	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
С	ISSUE FOR APPROVAL	30-10-18
В	ISSUE FOR COMMENT	25-10-18
А	ISSUE FOR COMMENT	24-10-18
Issue	Description	Date

100mm on Original

![](_page_60_Figure_2.jpeg)

![](_page_60_Figure_3.jpeg)

D50 = MEDIAN ROCK SIZE AS SPECIFIED

		ROCK	GRADA	TION TA	BLE	
			ROCK DISTRIBUTION BY %			
	200mm	300mm	600mm			
	400	600	750	850	900	15-25%
ROCK SIZE	300	400	525	600	750	20%
(mm)	200	300	400	500	600	50%
	75	100	150	150	200	15-25%

	Client	Scales	NTS	Drawn	GJ	Proj
THIS DRAWING CANNOT BE				Designed	GJ	
ANY FORM OR USED FOR ANY		Grid	MGA	Checked	AT	
OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED	Level 11, 528 Kent Street, Sydney NSW 2000	Height Datum	AHD	Approved		Titlo
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## ROCK RIP RAP GRADATION SIZE

OF RIP RAP SMALLER (ie RIP RAP PASSING THROUGH SIEVE)	
100%	
50%	
10-20%	

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![](_page_61_Figure_0.jpeg)

![](_page_61_Figure_1.jpeg)

![](_page_61_Figure_2.jpeg)

MODERATE PHOSPHOROUS SENSITIVITY ARE TO BE USED, TOTAL PHOSPHOROUS CONCENTRATION SHOULD BE <20mg/kg.

d) AS SPECIFIED FOR "NATURAL SOILS AND SOIL BLENDS" AS4419 - pH 5.5-7.5 (pH 1.5 IN WATER) e) ELECTRICAL CONDUCTIVITY (EC) AS SPECIFIED FOR "NATURAL SOILS AND

SOILS BLENDS" AS4419 <1.2ds/m f) DISPENSABILITY - AS SPECIFIED FOR 'NATURAL SOILS AND SOIL BLENDS' AS4419

CATEGORY 1 OR 2 q) TEXTURE – LOAMY SAND AS PER AS4419

5. PRIOR TO PLACEMENT OF THE FILTER MEDIA A STATEMENT IS TO BE SUBMITTED FROM A QUALIFIED HORTICULTURIST CONFIRMING THAT THE SOIL IS CAPABLE OF SUPPORTING A HEALTHY VEGETABLE COMMUNITY.

6. TESTS CONFIRMING THE REQUIREMENTS OF ITEMS 1 TO 4 ARE TO BE SUBMITTED FOR APPROVAL PRIOR TO PLACEMENT OF FILTER MEDIA.

#### B) DRAINAGE LAYER A

DRAINAGE LAYER MATERIAL IS TO BE CLEAN, FINE GRAVEL, SUCH AS A 2 – 5mm WASHED SCREENING. THE PARTICLE SIZE DISTRIBUTION TO BE: D15 (DRAINAGE LAYER) < 5 x D85 (TRANSITION LAYER) WHERE: D15 (DRAINAGE LAYER) IS THE 15TH PERCENTILE PARTICLE SIZE IN THE TRANSITION LAYER MATERIAL (i.e, 15% OF THE SAND IS SMALLER THAN D15 mm), AND D85 (TRANSITION LAYER) IS THE 85th PERCENTILE PARTICLE SIZE IN THE FILTER MEDIA.

#### C) DRAINAGE LAYER B

10-20mm CLEAN GRAVEL WITH 2% VOLUME FINE STRAW AND 4-6% VOLUME HARDWOOD CHIPS.

#### INSTALLATION:

FILTER MATERIAL IS TO BE LIGHTLY COMPACTED EG. A SINGLE PASS WITH A DRUM LAWN ROLLER. UNDER NO CIRCUMSTANCES SHOULD HEAVY EQUIPMENT OR MULTIPLE PASSES BE MADE. FILTER MEDIA SHOULD BE INSTALLED IN TWO LIFTS UNLESS THE DEPTH IS LESS THAN 500mm.

![](_page_61_Figure_15.jpeg)

## TYPICAL SLOTTED PIPE DETAILS 1:20

100mm on Original

![](_page_61_Figure_17.jpeg)

![](_page_61_Figure_19.jpeg)

![](_page_61_Picture_20.jpeg)

# TYPICAL PLANTING LOCATION

			Bar Scales						
				0	500	1(	000	1500	2000mm
F	ISSUE FOR APPROVAL	28-03-19							
E	ISSUE FOR APPROVAL	10-12-18			1 : 20	) @ A1	1:40 @	0 A 3	
D	ISSUE FOR APPROVAL	07-12-18				-	-		
С	ISSUE FOR APPROVAL	30-10-18		0	0.5	1	1.5	2	2.5m
В	ISSUE FOR COMMENT	25-10-18					1 5 9 6		
А	ISSUE FOR COMMENT	24-10-18			1 : 2	o (0) A1	1:50 (0	0 A 3	
Issue	Description	Date							

F:\18-580 Warriewood Meriton\6.0 Drgs\Civil\Final\1000 Series - Early Works\DAC1023.dwg

![](_page_62_Figure_0.jpeg)

PAVEMENT	LEGEND						
EXISTING	EXISTING BOUNDARY						
	EXISTING CONTOUR						
	EXISTING TREE						
PROPOSED							
	ROAD PAVEMENT (FLEXIBLE)						
	LANDSCAPING/TURF						
	RAINGARDEN. REFER TO DRAWING DAC1023 FOR DETAILS VEHICULAR CROSSOVER AS PER NORTHERN BEACHES COUNCIL GUIDELINES						
<ul> <li>NORTHERN BEACHES COUNCE</li> <li>NORTHERN BEACHES COUNCE</li> <li>NARRABEEN CREEK DESIGN SHOULD BE CONSI INDICATIVE ONLY UNTIL DETAILED SITE SURV ADJACENT PROPERTY OWNERS DETAILED DES OBTAINED IN ELECTRONIC FORMAT</li> <li>REFER DRAWING DAC1020 FOR CIVIL DETAILS.</li> <li>REFER DRAWING DAC1021-1023 FOR STORMWAR</li> <li>PAVEMENT DESIGN SUBJECT TO COUNCIL REQ GEOTECHNICAL CONFIRMATION.</li> <li>DRIVEWAYS ARE SHOWN FOR COORDINATION AND ARE SUBJECT TO INDIVIDUAL LOT APPRO</li> </ul>							
ROAD PAV	EMENT DESIGN DING (DESIGN CBR = 4)						
WEARING COURSE – 4 BASE COURSE – 100mr SUB-BASE COURSE – SUBGRADE – EXISTING	0mm AC10 (IN 2 LAYERS) n DGB20 240mm CRUSHED SANDSTONE 3						
SUBJECT TO DETAILED DESIGN AND CONFIRMATION OF COUNC REQUIREMENTS							

31 DP5464

Civil Engineers and Project Managers <sup>Project</sup> 2<sup>MACPHERSON STREET</sup> Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au WARRIEWOOD EARLY WORKS PACKAGE info@atl.net.au PAVEMENT Status FOR APPROVAL A1 SIGNAGE AND NOT TO BE USED FOR CONSTRUCTION LINEMARKING Drawing No. Project No. Issue PLAN DAC1030 18-580

F:\18-580 Warriewood Meriton\6.0 Drgs\Civil\Final\1000 Series - Early Works\DAC1030.dwg

			Bar Scales							
		28 02 10		0	2	4	6	8	10 m	
		20-03-19								
E	ISSUE FOR APPROVAL	10-12-18			1·100 @ A1 1·200 @ A3					
D	ISSUE FOR APPROVAL	07-12-18			1 · 1		1.200 (0			
C	ISSUE FOR APPROVAL	30-10-18		0	10	20	30	40	50m	
В	ISSUE FOR COMMENT	25-10-18								
А	ISSUE FOR COMMENT	24-10-18			1 : 50	0 @ A1	1:1000 (	@ A3		
Issue	Description	Date								

					4.962 -0.196								FINISHED SURFACE-	
TIE IN SMOOTHLY TO EXISTING MACPHERSON STREET VEHICLE CROSSOVERS	1, B. = 4.149	M:0.≣ 0 0			+ I.P.= / M.O.=		L R F S T			EXISTING SU	JRFACE			
				\										 
HORIZONTAL				-	< <del>R</del> -	<u> </u>			<	R50	>			
VC LENGTH			-	 	 30m V K=5.7	' <u>C</u> 7		>						
GRADE	3		4.7%		><								-0.5%	
Datum RL-3	20			5	2	5	+	7			7	5	Ω.	2
PROPOSED SURFACE LEVEL	4.10 /. 1/.	4.18 4.18 1. 25	0	4.70	4.76 4.79	4.86	4.89	4.88 /. 87	10.4	) ) -	4.78	4.75	4 65	4.55 4 54
EXISTING SURFACE LEVEL	4.102	4.181		3.194	3.242 3.241	3.225	3.388	3.554	3 531		3.543	3.396	3.478 3.478	3.369
CHAINAGE	0.000	2.188		15.965	18.708 20.000	24.740	30.838	33.708 35./09	00007		53.589	60.000	00008	100.000
	ТР			ТР		TΡ			ТР		ЦD	=		

![](_page_63_Figure_2.jpeg)

MC01 LONGITUDINAL SECTION SCALE 1:500 HORI. 1:100 VERT.

	Client	<sup>Scales</sup> 1:500 (H) @ A1 1:100 (V) @ A1	Drawn	GJ	Proje
THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN			Designed	GJ	
ANY FORM OR USED FOR ANY		Grid MGA	Checked	AT	
OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED	Level 11, 528 Kent Street, Sydney NSW 2000	Height AHD	Approved		Titlo
WITHOUT THE WRITTEN PERMISSION OF AT&L	Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au				Inte

![](_page_63_Picture_6.jpeg)

F:\18-580 Warriewood Meriton\6.0 Drgs\Civil\Final\1000 Series - Early Works\DAC1040.dwg

![](_page_64_Figure_0.jpeg)

CH 20

![](_page_64_Figure_2.jpeg)

CH 15.965

![](_page_64_Figure_4.jpeg)

CH 5.3

			Bar Scales
F	ISSUE FOR APPROVAL	28-03-19	
Е	ISSUE FOR APPROVAL	10-12-18	
D	ISSUE FOR APPROVAL	07-12-18	
С	ISSUE FOR APPROVAL	30-10-18	
В	ISSUE FOR COMMENT	25-10-18	
А	ISSUE FOR COMMENT	24-10-18	
Issue	Description	Date	

100mm on Original

![](_page_64_Figure_7.jpeg)

![](_page_64_Figure_8.jpeg)

CH 33.708

![](_page_64_Figure_10.jpeg)

![](_page_64_Figure_11.jpeg)

![](_page_64_Figure_12.jpeg)

CH 24.74

		Client	<sup>Scales</sup> 1:100 @ A	1 Drawn	GJ	<sup>Project</sup> 2 MACPHERSON STREET	Civil Engineers and Project Managers	3		
	THIS DRAWING CANNOT BE			Designed	GJ	WARRIEWOOD	Control         Contro <thcontrol< th=""> <thcontrol< th=""> <thco< td=""></thco<></thcontrol<></thcontrol<>			
	ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L		Grid MGA	Checked	AT					
		Level 11, 528 Kent Street, Sydney NSW 2000	Height Datum AHD	Approved		Title	www.atl.net.au info@atl.net.au			
		Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au				MC01 CROSS SECTIONS	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTIC	A1		
						SHEET 1	Drawing No.         Project No.           DAC1050         18-580	Issue F		

CH 53.589

CH 40

F:\18-580 Warriewood Meriton\6.0 Drgs\Civil\Final\1000 Series - Early Works\DAC1050.dwg

![](_page_65_Figure_0.jpeg)

CH 100

![](_page_65_Figure_2.jpeg)

CH 80

![](_page_65_Figure_4.jpeg)

CH 60

			Bar Scales
F	ISSUE FOR APPROVAL	28-03-19	
E	ISSUE FOR APPROVAL	10-12-18	
D	ISSUE FOR APPROVAL	07-12-18	
C	ISSUE FOR APPROVAL	30-10-18	
В	ISSUE FOR COMMENT	25-10-18	
А	ISSUE FOR COMMENT	24-10-18	
Issue	Description	Date	

100mm on Original

![](_page_65_Figure_7.jpeg)

![](_page_65_Figure_8.jpeg)

![](_page_65_Figure_9.jpeg)

![](_page_65_Figure_10.jpeg)

CH 109.288

![](_page_65_Figure_12.jpeg)

CH 101.788

	Client	Scales 1	: 100 @ A1	Drawn	GJ	<sup>Project</sup>
THIS DRAWING CANNOT BE				Designed	GJ	
ANY FORM OR USED FOR ANY	Grid CONSTRUCTION SERVICES (NSW) PTY LIMITED Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au	Grid	MGA	Checked	AT	
OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED		Height Datum	AHD	Approved		Title
WITHOUT THE WRITTEN PERMISSION OF AT&L						(

2 <sup>ct</sup> MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE	Civil Engineers	and Project Managers Level 7, 153 Wal North Sydney NS ABN 96 130 882 Tel: 02 9439 Fax: 02 9460 8 www.atl.net.au	lker Street SW 2060 2 405 1777 8413
MC01 CROSS SECTIONS	Status FOR AF	PPROVAL FOR CONSTRUCTION	A1
SHEET 2	Drawing No.	Project No. 18-580	Issue

F:\18-580 Warriewood Meriton\6.0 Drgs\Civil\Final\1000 Series - Early Works\DAC1051.dwg

![](_page_66_Figure_0.jpeg)

CH 126.476

![](_page_66_Figure_2.jpeg)

CH 120

![](_page_66_Figure_4.jpeg)

CH 116.788

			Bar Scalos
			Dai Scales
F	ISSUE FOR APPROVAL	28-03-19	
E	ISSUE FOR APPROVAL	10-12-18	
D	ISSUE FOR APPROVAL	07-12-18	
C	ISSUE FOR APPROVAL	30-10-18	
В	ISSUE FOR COMMENT	25-10-18	
А	ISSUE FOR COMMENT	24-10-18	
Issue	Description	Date	

100mm on Original

![](_page_66_Figure_7.jpeg)

\_\_\_\_

5.013

76

+20

0

![](_page_66_Figure_8.jpeg)

![](_page_66_Figure_9.jpeg)

![](_page_66_Figure_10.jpeg)

![](_page_66_Figure_11.jpeg)

![](_page_66_Figure_12.jpeg)

## CH 139.848

		Client	<sup>Scales</sup> 1:100 @ A1	Drawn	GJ	Proj
	THIS DRAWING CANNOT BE			Designed	GJ	
	ANY FORM OR USED FOR ANY		Grid MGA	Checked	AT	
	OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED	Level 11, 528 Kent Street, Sydney NSW 2000	Height AHD Datum AHD	Approved		Title
THAT ORIGINALLY INTENDE WITHOUT THE WRITTEN PERMISSION OF AT&L	WITHOUT THE WRITTEN PERMISSION OF AT&L	Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au				The

![](_page_66_Picture_15.jpeg)

 $F: 18-580 \ Warriewood \ Meriton \\ 6.0 \ Drgs \\ Civil \\ Final \\ 1000 \ Series \ - \ Early \ Works \\ DAC1052. \\ dwg \\ Nach \\ Sach \\ Sa$ 

![](_page_67_Figure_0.jpeg)

![](_page_67_Figure_1.jpeg)

![](_page_67_Figure_2.jpeg)

![](_page_67_Figure_3.jpeg)

			Bar Scales		
F	ISSUE FOR APPROVAL	28-03-19			
Е	ISSUE FOR APPROVAL	10-12-18		0	
D	ISSUE FOR APPROVAL	07-12-18			2
C	ISSUE FOR APPROVAL	30-10-18			
В	ISSUE FOR COMMENT	25-10-18			
А	ISSUE FOR COMMENT	24-10-18			
ssue	Description	Date			

100mm on Original

![](_page_67_Figure_5.jpeg)

![](_page_67_Figure_6.jpeg)

![](_page_67_Figure_7.jpeg)

![](_page_67_Figure_8.jpeg)

CH 180

![](_page_67_Figure_10.jpeg)

CH 176.461

	Client	Scales 1	: 100 @ A1	Drawn	GJ	Proje
THIS DRAWING CANNOT BE				Designed	GJ	
ANY FORM OR USED FOR ANY	CONSTRUCTION SERVICES (NSW) Grid	Grid	MGA	Checked	AT	
OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au	Height Datum	AHD	Approved		Title

![](_page_67_Picture_13.jpeg)

 $\label{eq:F:18-580} F: 18-580 Warriewood Meriton \\ 6.0 Drgs \\ Civil \\ Final \\ 1000 Series - Early Works \\ DAC1053.dwg \\ Civil \\ Civi$ 

![](_page_68_Figure_0.jpeg)

25-10-18

24-10-18

Date

ISSUE FOR COMMENT

ISSUE FOR COMMENT

Description

100mm on Original

![](_page_68_Figure_1.jpeg)

![](_page_68_Figure_2.jpeg)

CH 220

![](_page_68_Figure_4.jpeg)

CH 219.421

	Client	<sup>Scales</sup> 1 : 100 @ A1	Drawn	GJ	Proj
THIS DRAWING CANNOT BE			Designed	GJ	] '
ANY FORM OR USED FOR ANY		Grid MGA	Checked	AT	
OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	PTY LIMITED Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au	Height AHD Datum	Approved		- Title

![](_page_68_Picture_7.jpeg)

 $F: 18-580 \ Warriewood \ Meriton \\ 6.0 \ Drgs \\ Civil \\ Final \\ 1000 \ Series \ - \ Early \ Works \\ DAC1054. \\ dwg \\ Nach \\ Series \ - \ Early \ Works \\ DAC1054. \\ dwg \\ Nach \\ Series \ - \ Early \ Works \\ Nach \\ Series \ - \ - \ Series \ - \ - \ Series \ - \ Series \ - \ Series \ - \ Ser$ 

![](_page_69_Figure_0.jpeg)

25-10-18

24-10-18

Date

ISSUE FOR COMMENT

ISSUE FOR COMMENT

Description

100mm on Original

![](_page_69_Figure_1.jpeg)

![](_page_69_Figure_2.jpeg)

CH 220

![](_page_69_Figure_4.jpeg)

CH 219.421

	Client	<sup>Scales</sup> 1 : 100 @ A1	Drawn	GJ	Proj
THIS DRAWING CANNOT BE			Designed	GJ	] '
ANY FORM OR USED FOR ANY		Grid MGA	Checked	AT	
OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	PTY LIMITED Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au	Height AHD Datum	Approved		- Title

![](_page_69_Picture_7.jpeg)

 $F: 18-580 \ Warriewood \ Meriton \\ 6.0 \ Drgs \\ Civil \\ Final \\ 1000 \ Series \ - \ Early \ Works \\ DAC1055. \\ dwg \\ Nach \\ Sach \\ Sa$ 

![](_page_70_Figure_0.jpeg)

CH 250

![](_page_70_Figure_2.jpeg)

![](_page_70_Figure_3.jpeg)

![](_page_70_Figure_4.jpeg)

			Bar Scales		
F	ISSUE FOR APPROVAL	28-03-19			
E	ISSUE FOR APPROVAL	10-12-18		0	2
D	ISSUE FOR APPROVAL	07-12-18			
С	ISSUE FOR APPROVAL	30-10-18			1 :
В	ISSUE FOR COMMENT	25-10-18			
А	ISSUE FOR COMMENT	24-10-18			
Issue	Description	Date			

100mm on Original

![](_page_70_Figure_6.jpeg)

![](_page_70_Figure_7.jpeg)

CH 270.619

1 in 4	2.5%	KERB FACE
3.367	5.016	4.914 4.914 4.764 4.804
3.367	3.395 3.404	3.476 3.478 3.479 3.485
- 15.094	-8.500 -8.000	-3.930 -3.780 -3.750 -3.250

CH 270

![](_page_70_Figure_11.jpeg)

CH 260

		Client	<sup>Scales</sup> 1 : 100 @ A1	Drawn	GJ	Proj	
	THIS DRAWING CANNOT BE			Designed	GJ		
	ANY FORM OR USED FOR ANY	ANY FORM OR USED FOR ANY	CONSTRUCTION SERVICES (NSW)	Grid MGA	Checked	AT	]
	OTHER PURPOSE OTHER THAN	Level 11, 528 Kent Street, Sydney NSW 2000	Height AHD	Approved		Title	
THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au						

![](_page_70_Figure_14.jpeg)

![](_page_70_Picture_15.jpeg)

 $\label{eq:F:18-580} F: 18-580 Warriewood Meriton \\ 6.0 Drgs \\ Civil \\ Final \\ 1000 Series - Early Works \\ DAC1056. \\ dwg \\ DAC1056. \\ dwg \\ dw$ 

![](_page_71_Figure_0.jpeg)

![](_page_71_Figure_1.jpeg)

CH 280

![](_page_71_Figure_3.jpeg)

CH 278.204

		Bar Scales		Client	Scales 1:1	00 @ A1	Drawn	GJ	Proje
			THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L				Designed	GJ	]
F ISSUE FOR APPROVAL	28-03-19			CONSTRUCTION SERVICES (NSW)	Grid	MGA	Checked	AT	1
E ISSUE FOR APPROVAL	10-12-18	0 2 4 6 8 10m		Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au	Height		Approved		1
D ISSUE FOR APPROVAL	07-12-18				Datum AND	АПО			Title
C ISSUE FOR APPROVAL	30-10-18	1 : 100 @ A1 1 : 200 @ A3							
B ISSUE FOR COMMENT	25-10-18								
A ISSUE FOR COMMENT	24-10-18			Internet: http://www.meriton.com.au					
Issue Description	Date								

CH 286.401

![](_page_71_Figure_8.jpeg)

CH 295.799

F:\18-580 Warriewood Meriton\6.0 Drgs\Civil\Final\1000 Series - Early Works\DAC1057.dwg


	SERVICES	I FGFND	
	EXISTING		
		EXISTING BOUNDARY	
		EXISTING 20m ASSET PROTECTIO	N ZONE
		BIODIVERSITY EXTENTS	
	$\left( \begin{array}{c} \\ \\ \\ \end{array} \right)$	EXISTING TREE	
		ELECTRICITY OVERHEAD	
	t	TELSTRA CONDUITS	
		NBN SERVICE	
	ss	SEWER SERVICE	
	w	WATER SERVICE	
	g	GAS SERVICE	
	•	STORMWATER WATER HYDRANT	
	×	WATER STOP VALVE	
	$\bigcirc$	SEWER MANHOLE	
	• •	POWER POLE	
	⊞T	TELSTRA PIT	
	<b>*</b> .	EXISTING POWER POLE	
	PROPOSED		
	- x · x -	SERVICE TO BE REMOVED	
		KERB & GUTTER	
		ROLL TOP KERB AND GUTTER	
		BATTER	
		CONTOUR (0.2m INTERVAL)	
		RETAINING WALL	
		STORMWATER PIPE (SHOWING SIZ	7F)
31 DP5464			/
			т
		STORMWATER SORFACE INLET PI	
		STURMWATER RAINGARDEN	
	NOTES 1. SERVICE ALIGN SUBJECT TO IN SHOULD BE CO	MENTS AND CONNECTION DETAILS A IDIVIDUAL UTILITIES AND LOT APPRONSIDERED INDICATIVE ONLY.	RE DVAL
30 P5464			
BEFORE YOU DIG			
CONTRACTOR SHALL CALL;			
VIAL BEFORE YOU DIG 1100			
PRIOR TO COMMENCEMENT OF WORK			
AUTHORITY PLANS			
	Civil Engineer	s and Project Managers	
WARRIEWOOD		Level 7, 153 Walk	er Street
EARLY WORKS		ABN 96 130 882 4 Tel· 02 9439 13	405 777
PACKAGE		Fax: 02 9923 10 www.atl.net.au	055
		info@atl.net.au	
AND UTILITIES	FOR	APPROVAL	A1
COORDINATION	NUL TO BE U Drawing No	DED FOR CONSTRUCTION Project No.	Issue
PLAN	DAC107	70 18-580	F

 $F: 18-580 \ Warriewood \ Meriton \\ 6.0 \ Drgs \\ Civil \\ Final \\ 1000 \ Series \ - \ Early \ Works \\ DAC1070. \\ dwg \\ Hords \\$ 



2 <sup>ct</sup> MACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE	Civil Engineers	and Project Managers Level 7, 153 Wa North Sydney NS ABN 96 130 882 Tel: 02 9439 Fax: 02 9460 S www.atl.net.au info@atl.net.au	lker Street SW 2060 2 405 1777 8413
SEDIMENTATION AND EROSION	Status FOR AI	PROVAL FOR CONSTRUCTION	A1
	Drawing No.	Project No.	Issue
PLAN	DAC 1080	10-200	Г



100mm on Original

	Client	Scales	AS SHOWN	Drawn	GJ	Proje
THIS DRAWING CANNOT BE				Designed	GJ	
ANY FORM OR USED FOR ANY		Grid	MGA	Checked	AT	
OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED	Level 11, 528 Kent Street, Sydney NSW 2000	Height Datum	AHD	Approved		Titlo
WITHOUT THE WRITTEN PERMISSION OF AT&L	Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au					The

F:\18-580 Warriewood Meriton\6.0 Drgs\Civil\Final\1000 Series - Early Works\DAC1081.dwg

# SITE DATA

Site area		Bomarka					
Site area	1	2	3	4	5		Remarks
Total catchment area (ha)	0.29	0.32	0.18	0.22	0.91		
Disturbed catchment area (ha)	0.29	0.32	0.18	0.22	0.91		
Soil analysis							
% sand (faction 0.02 to 2.00 mm							Soil texture should be assessed through
% silt (fraction 0.002 to 0.02 mm)							mechanical dispersion only. Dispersing
% clay (fraction finer than 0.002 mm)							agents (e.g. Calgon) should not be used
Dispersion percentage							E.g. enter 10 for dispersion of 10%
% of whole soil dispersible							See Section 6.3.3(e)
Soil Texture Group							See Section 6.3.3(c), (d) and (e)
Rainfall data							
Design rainfall depth (days)	5	5	5	5	5		See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85	85	85	85	85		See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	44	44	44	44	44		See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm	13.5	13.5	13.5	13.5	13.5		See IFD chart for the site
RUSLE Factors							
Rainfall erosivity ( <i>R</i> -factor)	3960	3960	3960	3960	3960		Automatic calculation from abov e data
Soil erodibility (K-factor)	0.007	0.007	0.007	0.007	0.007		
Slope length (m)	80	80	80	80	80		
Slope gradient (%)	5	5	5	5	5		RUSLE data can be obtained from
Length/gradient ( <i>LS</i> -factor)	1.19	1.19	1.19	1.19	1.19		Appendixes A, B and C
Erosion control practice (P -factor)	1.2	1.2	1.2	1.2	1.2	1.3	1
Ground cover (C-factor)	1	1	1	1	1	1	
Calculations							
Soil loss (t/ha/yr)	40	40	40	40	40		
Soil Loss Class	1	1	1	1	1		See Section 4.4.2(b)
Soil loss (m <sup>3</sup> /ha/yr)	30	30	30	30	30		
Sediment basin storage volume m <sup>3</sup>	2	2	1	1	5		See Sections 6.3.4(i) and 6.3.5 (e)

# PEAK FLOW CALCULATIONS

Peak fl	ow calcu	lations,	1						
Site	A	tc			Rainfall inten	sity, I, mm/h	r		C.,
Sile	(ha)	(mins)	1 yr,tc	5 yr,tc	10 yr,tc	20 yr,tc	50 yr,tc	100 yr,tc	C10
1	0.29	5	98.1	159	178	204	237	262	0.5
2	0.32	5	98.1	159	178	204	237	262	0.5
3	0.18	4	98.1	159	178	204	237	262	0.5
4	0.22	5	75.3	159	178	204	237	262	0.5
5	0.91	8	75.3	123	139	159	185	205	0.5
Peak fl	ow calcu	lations,	2						
	Frequency			Peak	flows				
ARI (vrs)	factor	1	2	3	4	5		Com	ment
0.0,	(F <sub>y</sub> )	(m <sup>3</sup> /s)	(m <sup>3</sup> /s)	(m³/s)	(m <sup>3</sup> /s)	(m <sup>3</sup> /s)	(m3/s)	1	
1 yr,tc	0.9	0.036	0.039	0.022	0.021	0.086			
5 yr,tc	0.95	0.061	0.067	0.038	0.046	0.148			
10 yr,tc	1	0.072	0.079	0.045	0.054	0.176			
20 yr,tc	1.05	0.086	0.095	0.054	0.066	0.211			
50 yr,tc	1.15	0.110	0.121	0.068	0.083	0.269			
100 yr,tc	1.2	0.127	0.140	0.079	0.096	0.311			

Peak fle	ow calcu	lations,	1						
Site	A	tc		ľ	Rainfall inten	sity, I, mm/h	r		<u> </u>
Sile	(ha)	(mins)	1 yr,tc	5 yr,tc	10 yr,tc	20 yr,tc	50 yr,tc	100 yr,tc	U10
1	0.29	5	98.1	159	178	204	237	262	0.5
2	0.32	5	98.1	159	178	204	237	262	0.5
3	0.18	4	98.1	159	178	204	237	262	0.5
4	0.22	5	75.3	159	178	204	237	262	0.5
5	0.91	8	75.3	123	139	159	185	205	0.5
Peak fl	ow calcu	lations,	2						
ARI	Frequency			Peak flows					
(vrs)	factor	1	2	3	4	5		Com	ment
0.0,	(F <sub>y</sub> )	(m <sup>3</sup> /s)	(m <sup>3</sup> /s)	(m³/s)	(m <sup>3</sup> /s)	(m³/s)	(m3/s)		
1 yr,tc	0.9	0.036	0.039	0.022	0.021	0.086			
5 yr,tc	0.95	0.061	0.067	0.038	0.046	0.148			
10 yr,tc	1	0.072	0.079	0.045	0.054	0.176			
20 yr,tc	1.05	0.086	0.095	0.054	0.066	0.211			
50 yr,tc	1.15	0.110	0.121	0.068	0.083	0.269			
100 yr,tc	1.2	0.127	0.140	0.079	0.096	0.311			

F	ISSUE FOR APPROVAL	28-03-19
Е	ISSUE FOR APPROVAL	10-12-18
D	ISSUE FOR APPROVAL	07-12-18
С	ISSUE FOR APPROVAL	30-10-18
В	ISSUE FOR COMMENT	25-10-18
А	ISSUE FOR COMMENT	24-10-18
Issue	Description	Date

100mm on Original

# TOTAL BASIN VOLUME

	0	A	Basin	Depth of	Settling	Sediment	Total	Total Basin shape		
Site	(m <sup>3</sup> /s)	factor	area (m²)	zone (m)	volume (m <sup>3</sup> )	volume (m <sup>3</sup> )	volume (m <sup>3</sup> )	L:W Ratio	Length (m)	Widt (m)
1	0.018	4100	73	0.6	44	2	46	3	14.8	4.9
2	0.020	4100	81	0.6	48	2	50	3	15.5	5.2
3	0.011	4100	45	0.6	27	1	28	3	11.7	3.9
4	0.010	4100	42	0.6	25	1	26	3	11.3	3.8
5	0.043	4100	176	0.6	105	5	110	3	23.0	7.7

inagers
7, 153 Walker Street Sydney NSW 2060
02 9439 1777 02 9460 8413
atl.net.au atl.net.au
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	SW CATCH	MENTIEGEND
	EXISTING	
		EXISTING BOUNDARY
	3.0	EXISTING CONTOUR
		EXISTING TREE
		BIODIVERSITY EXTENTS
	<u>PROPOSED</u>	
		PROPOSED EASEMENT
	CATCHMENT TO	
	0.12ha	
		KERB & GUTTER
		ROLL TOP KERB AND GUITER
		BATTER
		CONTOUR (0.2m INTERVAL)
		RETAINING WALL
		STORMWATER PIPE (SHOWING SIZE)
		STORMWATER KERB INLET PIT
		STORMWATER SURFACE INLET PIT
		STORMWATER RAINGARDEN
31 DP5464	INDICATIVE ONI ADJACENT PRO OBTAINED IN EI 2. REFER DRAWIN 3. REFER DRAWIN 4. DRIVEWAYS AI AND ARE SUBJ	LY UNTIL DETAILED SITE SURVEY AND OPERTY OWNERS DETAILED DESIGNS ARE LECTRONIC FORMAT IG DAC020 FOR CIVIL DETAILS. IG DAC021-023 FOR STORMWATER DETAILS. RE SHOWN FOR COORDINATION PURPOSES ONLY ECT TO INDIVIDUAL LOT APPROVALS.
80 5464		
ACPHERSON STREET WARRIEWOOD EARLY WORKS PACKAGE		Level 7, 153 Walker Street North Sydney NSW 2060 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au

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Drawing No.

DAC1090

CATCHMENT

PLAN

FOR APPROVAL

Project No.

18-580

A1

Issue





			Bar Scales
F	ISSUE FOR APPROVAL	28-03-19	
E	ISSUE FOR APPROVAL	10-12-18	
D	ISSUE FOR APPROVAL	07-12-18	I: 100 @ AT T: 200 @ A3
C	ISSUE FOR APPROVAL	30-10-18	0-18 0 10 20 30 40 50m
В	ISSUE FOR COMMENT	25-10-18	0-18
А	ISSUE FOR COMMENT	24-10-18	1 : 500 @ A1 1 : 1000 @ A3
Issue	Description	Date	te

100mm on Original

## NARRABEEN CREEK LONGITUDINAL SECTION

SCALE 1:500 HORI. 1:100 VERT.

		Client	Scales : 500 (H) @ A1	Drawn	GJ	Proje
	THIS DRAWING CANNOT BE		1.100 (V) @ A1	Designed	GJ	1
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	OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED	Level 11, 528 Kent Street, Sydney NSW 2000	Height AHD	Approved		Title
n	WITHOUT THE WRITTEN PERMISSION OF AT&L	Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au Internet: http://www.meriton.com.au				litte

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۲ ל כ כ.U + 7	242.951	242.961	246.353	249.567	252.260	252.270	254.469	260.000	262.793	280.000 284.681	



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COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER DURDOSE OTHER THAN	CONSTRUCTION SERVICES (NSW) PTY LIMITED	Grid N	MGA	Checked	AT	EARLY WORKS PACKAGE	ABN 96 130 8 Tel: 02 943 Fax: 02 944	882 405 89 1777 60 8413
THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Level 11, 528 Kent Street, Sydney NSW 2000 Tel: (02) 9287 2888 Fax: (02) 9287 2777 Email: info@design.meriton.com.au	Height Datum	AHD	Approved		Title NARRABEEN CREEK	Status FOR APPROVAL	A1
	internet. http://www.inentoin.com.ad					TYPICAL SECTIONS	Drawing No.         Project No.           DAC1116         18-580	Issue F
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# Appendix B – Site Photographs

Coffey SYDEN205656-R05 19 July 2019

### **APPENDIX B - SITE PHOTOGRAPHS**



Photograph 1: Excavation area following removal of fill material to a depth of 0.2m bgs at test-pit location TP04



Photograph 2: Excavation area following removal of fill material to a depth of 0.2m bgs at test-pit location TP21



Photograph 3: Excavation area following removal of fill material to a depth of 0.2m bgs at test-pit location TP13

### Appendix C – Borehole Logs (from Coffey 2017a DSI and 2017c Addendum DSI)

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Bor	eho	le l	_008	tion:	Refe	r Fig	2						(	Checke	d by	<i>r</i> :		PA		
drill	mod	el a	nd m	ountin	g: H	A				Easting:	slope:	-90°				R.	L. Su	irface:		
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method	1 Denetrati	3	water	DID	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	soil type: plasticity colour, secondar	material y or particle characteri y and minor compone	stics, nts.	moisture condition	consistency density inde	100 pocke	300 b penetr		s additi	structure a onal obser	nd vations
T	hod				E+4.5ppm	pen	0. <u>5</u>			Concrete (100mm thick Bitumen FILL (Silty SAND):mec plasticity clay, plastics, o refusal on concrete Borehole HA01 terminat	tium grained, brown, t crushed terracotta and ed at 0.3m	race low classific	m	mbols an				o ACM, sta	ining or odd	ndex
met DT PT SS HS VT AH CP HA NDI RC	hod	d p s h V a c h n r	liatub oush t oild s ollow / Bit, iir har able and a ion-de ock c	e ube stem fl stem T Bit nmer percus auger estruct orer	ight auger flight auger ssive ive digging	pen 1 2 wat	etration 3 4 er 10/1 on c wate	<ul> <li>no re: rangin rangin</li> <li>refus:</li> <li>1/98 wa</li> <li>1/98</li></ul>	sistance ng to al ter level own v	notes, samples, tests           U <sub>50</sub> undisturbed sam           D         disturbed sam           N         standard pene           N*         SPT - sample           Nc         SPT with solid           V         vane shear (kF)           P         pressuremeter           Bs         bulk sample           E         environmental           R         refusal	ample 50mm diameter ample 63mm diameter ple tration test (SPT) recovered cone Pa) sample	classific soil desc based o system <b>moisture</b> D dr M m W w Wp pl W <sub>L</sub> lic	ation syn cription n unified y oist et astic lim quid limit	mbols an classific it	d	1		Consisten VS S F St VSt H Fb VL L MD D VD	cy/density i very so soft firm stiff very st hard friable very lo loose mediu dense	ndex oft iff ose m dense

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	Coffey ATETRA TECH COMPANY Engineering Log - Borehole										F	3oreho <sup>i</sup>	le No.	HA02	
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Clie	ent:			Merit	on (	Grou	p					Date st	arted:	17.5.2017	
Prir	incipal: oject: DSI, 2 Macpherson Street, Warriewood, NSW prehole Location: Refer Fig 2												Date cr	ompleted	i: <b>17.5.2017</b>
Pro	iect:			DSL	2 M;	acnh	erso	n Str	eet. Warriewoo	d. NSW			loaded	by:	JS
Bon	ehole		ation.	Rofo	r Fic	ч 2			,	.,		-	Checks	ad by:	PΔ
drill	model	and m	ountin	ig: H					Easting:	slope:	-90°		JIECKE	R.L	
hole	diame	eter:		r	nm				Northing	bearinç	J:			datu	um: AHD
dri	lling	infor	mati	on			mate	rial su	ubstance					<u> </u>	1
method	5 penetration	water	DID	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	soil type: plastici colour, second	material ity or particle characteri ary and minor compone	stics, ents.	moisture condition	consistency/ density index	100 pocket 200 d penetro 400 meter	structure and additional observations
ЧH							<u></u>		Concrete (50mm thick	()		M			No ACM, staining or odours observed
				E+2.3ppm	1	_			FILL (Gravelly SAND brown to grey, fine to n some clay, ash and cru	): medium to coarse gr nedium aub-angular gra ushed sandstone	ained, avels, with				
					-										
						_									
					-	-			FILL (Sandy CLAY):r orange to grey, fine gra	nedium to high plasticit ained sand, with some a	.y, brown to ash and				
				E+3.6ppm		0. <u>5</u>		•	fine gravels						-
								×	refusal						
H			$\vdash$		$\vdash$				Borehole HA02 termina	ated at 0.6m				+ + + +	
						_									
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met DT PT SS HS VT	hod	diatub push t soild s hollov V Bit,	e :ube stem fli v stem T Bit	ight auger flight auger	<b>pen</b> 1 2	etration	<ul> <li>no res rangir</li> <li>nefus;</li> </ul>	sistance ng to al	notes, samples, tests           U <sub>50</sub> undisturbed s           U <sub>63</sub> undisturbed s           D         disturbed sar           N         standard pen           N*         SPT - sample	sample 50mm diameter sample 63mm diameter mple ietration test (SPT) e recovered	classific soil desc based or system moisture	ation syn cription n unified	nbols an	d :ation	consistency/density index       VS     very soft       S     soft       F     firm       St     stiff       VSt     very stiff
AH CP HA NDI RC	D	air har cable hand a non-d rock c	nmer percus auger estruct orer	sive	wate	er 10/1 on c wat	I/98 wat date shc er inflov ter outflo	ier level wn v	Nc     SPT with soli       V     vane shear (k       P     pressuremete       Bs     bulk sample       E     environmenta       R     refusal	id cone (Pa) er al sample	D dr M m W we Wp pl W <sub>L</sub> liq	y oist et astic lim juid limit	it :		H hard Fb friable VL very loose L loose MD medium dense D dense VD very dense

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				<b>y</b>								E	Boreho	e No		HA03	
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Pro	ject:			DSI, 2	2 Ма	acph	erso	n Str	eet, Warriewood	I, NSW		L	_ogged	by:		PA	
Bor	ehol	e Loc	ation:	Refe	<sup>,</sup> Fig	2						(	Checke	d by:		JS	
drill	mode	l and n	ountin	g: H	A				Easting:	slope:	-90°				R.L.	Surface:	
hole dri	diam	eter: <b>info</b>	rmati	n	nm		mate	rial su	Northing Ibstance	bearing	:				datu	m: AHD	
	ation			notes			_	uo		matarial			iy/ lex	tet etc-	5	- <b>f</b> an - <b>f</b> a	
nethod	penetra	ater	Ð	samples, tests, etc	_	depth	raphic lo	lassificat ymbol	soil type: plasticity	or particle characteris	stics,	oisture	onsisteno ensity ino	bod kP	a	additional observations	
Image: Section of the section of t												E 8 M	00	2 g g	9 9 9 9 9 9	No ACM, staining or odours obse	erved
Т							D. 7. 1									, <b>3</b>	
							1. 21. XXXX		FILL (Sandy CLAY):me	edium plasticity, white	to grey,						
						-			fine to medium sand								-
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						_				fine to medium graine	d brown to						_
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				E 10 0111													
				E+0.2ppm					refusal								
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DT PT	nod	diatul	e tube		<b>pen</b> 12	3 4	- no re-	sistanco	notes, samples, tests       U <sub>50</sub> undisturbed sa       U <sub>63</sub> undisturbed sa	mple 50mm diameter	soil dese based or	ation syl cription n unified	classific	u ation		Consistency/density index VS very soft S soft	
SS HS		soild	stem fli v stem	ight auger flight auger			rangir refusa	ng to al	D disturbed samp N standard penel	ple tration test (SPT)	system					F firm St stiff	
VT AH		V Bit, air ha	T Bit mmer		wat	er			N* SPT - sample r Nc SPT with solid	ecovered cone	moisture D dr	e y				VSt very stiff H hard	
CP HA	П	cable hand	percus auger	sive	┸	10/1 on d	/98 wat late sho	ter level	V vane shear (kP P pressuremeter Bs bulk sample	a)	M m W we	oist et astic limi	it			Fb friable VL very loose	
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BOREHOLE + PID GINT LOGS.GPJ COFFEY.GDT 30.5.17

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					<b>y</b>								E	Boreho	le No.		HA04	
Ē	A TETRA TECH COMPANY Engineering Log - Borehole Client: Meriton Group Principal: Project: DSI, 2 Macpherson Street, Warriewood, NSW Borehole Location: Refer Fig 2												9	Sheet Office J	Job No.:		1 of 1 <b>SYDEN205656</b>	
С	Client:       Meriton Group         Principal:       Project:         DSI, 2 Macpherson Street, Warriewood, NSW         Borehole Location:       Refer Fig 2         drill model and mounting:       HA       Easting:       slope:         nole diameter:       mm       Northing       bearing:													Date st	arted:		17.5.2017	
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HAM		0d			E+2.9ppm	Pen	0. <u>5</u>		3d da	FILL (Gravelly SAN to brown to white, m clay and crushed ter FILL (Gravelly SAN brown, medium grav refusal Borehole HA04 term	ID): fine to medium graine edium gravels, trace low pracotta	d, orange blasticity d, black to	M M	8 එ	q	No	o ACM, staining or odours obse	
	neth DT DT SS IS TT H R DD R C	od	diatu push soild hollo V Bit air ha cable hand non-o rock	be tube stem fl w stem T Bit mmer percus auger destruct corer	ight auger flight auger ssive tive digging	pend 1 2 wate	etration 3 4 er 10/1 on d wate	<ul> <li>no restrangin</li> <li>rangin</li> <li>refusion</li> <li>refus</li></ul>	ter level	notes, samples, test           U <sub>50</sub> undisturbe           U <sub>83</sub> undisturbe           D         disturbed s           N         standard p           N*         SPT - sam           NC         SPT with s           V         vane sheat           P         pressurem           Bs         bulk sample           R         refusal	s d sample 50mm diameter ample enetration test (SPT) ple recovered olid cone • (kPa) eter le ntal sample	classific soil des based o system <b>moisture</b> D dr M m W w Wp pl W <sub>L</sub> lic	ation sy cription n unified y oist et astic lim uuid limit	nbols an classific t	d		consistency/density index           VS         very soft           S         soft           F         firm           St         stiff           VSt         very stiff           H         hard           Fb         friable           VL         very loose           L         loose           D         dense           VD         very dense	

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Bore	ehole	e Loc	ation:	Refe	r Fig	j 2						(	Checke	d by:		JS	
drill r	node	and n	nountin	g: H	A				Easting:	slope:	-90°				R.L. 8	Surface:	
hole	Borehole Location:       Refer Fig 2         rill model and mounting:       HA       Easting:       slope:       -90'         ole diameter:       mm       Northing       bearing:         drilling information       material substance         uight bear ing:       notes       samples, tests, etc       depth       50'       uight bear ing:       material         uight bear       uight bear														datun	n:	AHD
	note diameter:     mm     Northing     bearing:       drilling information     material substance       55     notes     55     material       90     55     10     55     material												- ×	<sup>t</sup> ç			
method	5 penetrati	water	DID	samples, tests, etc	RL	depth metres	graphic log	classificatio symbol	mater soil type: plasticity or pa colour, secondary and	ial Irticle characteris minor componei	stics, nts.	moisture condition	consistency density inde	100 200 A pocke	400 meter	s additio	tructure and onal observations
Η		,					$\dot{\triangleleft} \cdot \dot{\triangleleft}$		Concrete (100mm thick)			М			, <del>4</del>	No ACM, stai	ning or odours observed
							0. 0. 0. 0.										
							1. A. A. A										
					-	_			FILL (Gravelly SAND):mediu	um to coarse gra	ined,						
									brown to black, fine to coarse clay, ash and crushed terracof	gravel, trace low ta	/ plasticity						
				E+4.1ppm	1	_											
									refusal								
							~~~~	•	Borehole HA05 terminated at (	).3m							
						_											
						0. <u>5</u>											_
						_											
						_											
					<u> </u>				notos correlas ta-ta-	+	ologa:#-	ation	mbola			occal-t-	n/donoity index
DT PT	100	diatul	e tube		<b>pen</b> 1 2	etration	- no re-	sistanco	U <sub>50</sub> Undisturbed sample	50mm diameter 63mm diameter	soil dese based or	ation syl cription n unified	classific	u ation		VS S	very soft soft
SS HS		soild	stem fli v stem	ight auger flight auger		<b></b>	rangir rafusa	ng to al	D disturbed sample N standard penetration	test (SPT)	system					F St	firm stiff
VT AH		V Bit, air ha	T Bit mmer	2 .0-	wat	er			N*SPT - sample recoveNcSPT with solid cone	red	moisture D dr	e y				VSt H	very stiff hard
CP HA		cable hand	percus auger	sive	<b>T</b>	10/1 on c	I/98 wat late sho	ter level	V vane shear (kPa) P pressuremeter		M m W we	oist et	:+			Fb VL	friable very loose
NDE RC	נ	non-c rock (	estruct corer	ive digging		wate	er inflov	V	E environmental samp	le	vvp pla W <sub>L</sub> liq	astic lim Juid limit	IL			L MD D	ioose medium dense dense
					◄	wate	er outflo	w	IN ICIUSAI							VD	very dense

ſ			f	fc	ער 🛓	7							_				
AT			<b>/∎</b> ∣		<b>y</b>	-							E	Excava	tion I	No.	TP01
E	in	ig	in	<b>ee</b>	ring	L	og	- E	Exc	avation			9	Sheet	Inh I	No ·	1 of 1 SVDEN205656
Cli	ient	<u> </u>			Merit	ton	Grou						<u> </u>	Date st	artec	d:	16.5.2017
Pri	inci	pal:	:				-						[	Date co	omple	eted	16.5.2017
Pro	ojec	ct:			Merit	ton '	Warr	iewo	od D	SI			l		l by:		LS
Те	est p	oit Ic	ocatic	on:	2 Ma	cph	erso	n Str	reet, I	Warriewood. NSW			(	Checke	ed by	r:	JS
equ	Jipm	nent	type a	and mc	xdel:					m				R.L	Surface:		
exc	avat	tion	dimer	nsions:	n 11-m	n long	m wir	de trat		• .	Northing	j: m				dati	um: AHD
ex	(Ca	<mark>va</mark> เ ธ		nfori	nation	$\top$		mate		ubstance				~ *		þ	
ر ۲		netratic			notes samples,	,		ic log	fication	material	I		aire	stency. y inde	pocke	meter	structure and
metho		, per	water	뎹	tests, etc	RL	depth metres	graphi	classif symbc	soil type: plasticity or partic	cle characteristic	cs,	moistu condit	consis densit		2a 28	additional observations
Ш	$\frac{1}{1}$	23	+-	<u> </u>	+	+			, <u> </u>	FILL (Gravel): Crushed terracot	tta	».	D		57	_ ∞ 4	No ACM
									, X	FILL (Clayey SAND): fine to me	dium grained, b	rown to	I				
						1			, X		lies		I				-
					E+1.8ppm	1			×				I				
						1			Ż				I				-
							-		Ś				I				-
									Ś				I				
						-	-		ż				I				-
					E+2.1ppm	n			ž				l				
						-	0. <u>5</u>	×××	SC	Clayey SAND: fine grained, brow	wn to grey to bla	ack, low	М				Sulfur odour
					E+1.0ppm	ו				plasticity, potential acid sultate so	oils		I				
						-							I				-
													I				
									į				l				_
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$\vdash$	++	+	+	+	+	+	1.0	[. <u>.</u>	<u> </u>	Test pit TP01 terminated at 1m					$\left  \right $	+	
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							-	-					l				-
							1 5						I				
me	atho	d			<u> </u>	per	netratior	<u>ا</u>	<u> </u>	notes, samples, tests	-l'-mator	classifica	ation sy	mbols an	l     Id		consistency/density index
PT	Г Г		diatuc push	)e tube stom f	lisht suger		234	— no re rangi	sistance	U <sub>50</sub> undisturbed sample but U <sub>63</sub> undisturbed sample 637	mm diameter mm diameter	based or	ription unified	classific	cation		VS very sont S soft
HS V1	, З Г		hollov V Bit	v stem T Bit	flight auger	r 📖	-	<ul> <li>refusa</li> </ul>	al	V vane shear (kPa) Rs hulk sample	-	moisture					St stiff VSt verv stiff
AH CF	Н Р		air ha cable	mmer percu	ssive	wat	ter	100	lovol	E environmental sample R refusal		D dry M mo	y oist				H hard Fb friable
HA NE	۹ DD		hand non-c	auger lestruc	tive digging	₹	· on c	Jate sho	ier ievei jwn			W we Wp pla	et astic lim	it			VL very loose L loose
RC	2		rock c	:orer			wat	er innov	v sw			W <sub>∟</sub> liq	uid limit				MD medium dense D dense

C	· <b>C</b>	<b>`</b> f	fc	<b>))/</b>	2							_				
ATE		ГСНС		<b>y</b>								E	Excavat	tion N	lo.	TP02
Ē	nç	jin	ee	ring	j L	og	- E	ixc	avation			e (	Sheet Office ,	lob N	1 n ·	of 1 .SYDEN205656
Clie	ent:			Merit	ton	Grou	р					[	Date st	arted:	:	16.5.2017
Prin	ncipa	l:										[	Date cc	mple	ted:	16.5.2017
Proj	ject:			Merit	ton	Warr	iewo	od D	SI			L	_ogged	by:		LS
Tes	t pit	locatio	on:	2 Ma	cph	erso	n Str	eet, l	Warriewood, NSW			(	Checke	d by:		JS
equi	pmen	t type a	and mo	idel:					Pit Orientation:	Easting:	m				R.L. Sı	Jurface:
exca exc	vatior	i dimer	nsions: inforr	mation	n long	m wic	de mate	erial s	ubstance	Northing:	: m				datum:	<u>، AHD</u>
	ation			notes			D <sub>D</sub>	tion	material				icy/ idex	ket letro-	ē	
thod	penetr	l l		samples, tests, etc		donth	phic Ic	ssificat	acil traci plasticity or particle	- oborootoristic		isture	isisten Isity in	bod kPa	a liet	structure and additional observations
met	12:	s at 8	PIC		RL	metres	gra	clas syn	colour, secondary and min	e characteristic	,S, ,.	con	con der	200 200	400	
Ш					-				FILL (Gravelly SAND): fine graine some ash	ed, black to wh	ite, with	М				To ACM or staining observed
				E+2.2pm	1	_	×	*	FILL (Sandy CLAY): low plasticit	tv. brown to gre	ev, fine					
					-			×	grained	<i>y,</i>	,,,					
						-		, ,								
								×								
				F+5.4ppn	n			×								
				L. 0. 166	-	0. <u>5</u> _		<u> </u>				10/	1			-
								, ,	some low plasticity clay and plastic cobbles (reworked natural materia	c, trace sandsto	one	vv				
						_		×		")						
								×								
								×								
								*								
								×								
				E+3.6ppn	n			×								
	++-				+	1.0	××		Test pit TP02 terminated at 1m						$\square$	
							1									
							1									
						_										
met	hod		<u> </u>		per	1.5 netration	Ļ	<u> </u>	notes, samples, tests		classific	ation sy	mbols an	d		consistency/density index
DT PT		diatul push	be tube	light ourgon	1 2	234	— no re	sistance	U <sub>50</sub> undisturbed sample 50m U <sub>63</sub> undisturbed sample 63m	im diameter im diameter	soil desc based or	ription	classific	ation		VS very soft S soft
HS VT		hollov V Bit	N stem	flight auge	1	-	⊢ refusa	al	V vane shear (kPa) Bs bulk sample	-	moisture				-	St stiff VSt verv stiff
AH CP		air ha cable	mmer percus	ssive	wat	ter	1/00	tor lovel	E environmental sample R refusal		D dry M m <sup>2</sup>	y oist				H hard Fb friable
HA NDI	D	hand non-c	auger lestruc	tive digging	, ┸	· on d	Jate sho	.er ievei )wn			W we Wp pla	et astic limi	it			VL very loose L loose
RC		rock (	corer			wat	er outfle	, w			W <sub>∟</sub> liq	uid limit				MD medium dense D dense VD verv dense

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ATE	ETRA T	ECH C		NY Y								E	Excavat	tion No	Э.	TP03	
Ε	ng	jin	ee	ring	) <b>L</b> (	og	- E	xc	avation			(	Sheet Office ,	Job Na	1 ).:	of 1 SYDEN205656	
Clie	ent:			Merit	ton (	Grou	р					[	Date st	arted:		16.5.2017	
Prir	ncipa	l:										[	Date co	omplete	ed:	16.5.2017	
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			l	_ogged	by:		LS	
Tes	st pit l	ocati	on:	2 Ma	cph	erso	n Str	eet, I	Warriewood, NSW			(	Checke	ed by:		JS	
equi	ipmen	t type a	and mo	del:					Pit Orientation:	Easting:	m			R	₹.L. Su	urface:	
exca ex	avatior cava	i dime tion	nsions: inforr	mation	ו long	m wic	de mate	erial s	ubstance	Northing:	m			d	latum:	AHD	
	ation			notes			5	ion	materi				oy/ dex	(et etro-	ካ		
poq	benetra	1		samples,			ohic lo	sificat		<b>1</b>		sture	sistenc sity inc	beut beut peut	mete	structure and additional observatio	ns
met	123	wati	DID	10010, 012	RL	depth metres	grap	clas sym	soil type: plasticity or part colour, secondary and m	icle characteristics, ninor components.	,	mois	con: den:	200 Z	400		
Ш								,	FILL (Gravelly SAND): fine gra sub-angular gravel, trace low pl	ained, brown to gre lasticity clay	<del>у</del> ,	M			N	o ACM or staining observed	
				E+4.4ppn													
					1			×									
								×									
																	_
							F	4	Ash Layer: Asphalt with some f sand (brown to grey) and some	ine to medium clay fine to medium	ey						
							F	4									_
			F+2 5			11		1									
			L· 2.0	ppin acc		0. <u>5</u>		•	L								
									FILL (Clayey SAND): fine to me low plasticity, with some small to	edium grained, bro o medium sub-ang	wn, ular						
									glavel and Gusney terracolla								_
								×				W					
								×									_
				F+5.2ppm	n												
	Щ			L ' V. <b>L</b> pp				×									
									Test pit TP03 terminated at 0.8r	n							
						_											_
						1. <u>0</u>											
						_											_
						_											_
										i							
DT	thod	diatul	be tube		pen 1 2	etration	I		notes, samples, tests       U <sub>50</sub> undisturbed sample 50       U     undisturbed sample 60	0mm diameter s	classification contracts c	ation syn ription	mbols an	d		consistency/density index VS very soft	
SS HS		soild	stem fl w stem	ight auger flight auge	. I 🖉		rangir rangir	alstance ng to al	D disturbed sample V vane shear (kPa)	sinni diameter i i	system	runneu	Classific	alion		F firm St stiff	
VT AH		V Bit, air ha	T Bit immer		waſ	ter			Bs bulk sample E environmental sample	<b>ר</b>	<b>moisture</b> D dr	y y				VSt very stiff H hard	
CP HA		cable hand	percus auger	sive	∎	10/1 • on c	i/98 wał date sho	ter level own	R refusal	N V	vi mo V we	oist et				Fb friable VL very loose	
RC	D	non-c rock (	corer	ive digging		wate	er inflov	V		N N	Np pia N <sub>L</sub> liq	uid limit	It			L loose MD medium der D dense	ise
						watr	er outflo	w								VD verv dense	

cof	fov	?							
COI	су	•				E	xcavat	ion No.	TP04
Engin	eering	g Log	- Exc	avation		SI O	heet ffice J	ob No.:	1 of 1 SYDEN205656
Client:	Merit	eriton Group	<b>ט</b>			D	ate sta	arted:	16.5.2017
Principal:						D	ate co	mpleted:	16.5.2017
Project:	Merit	eriton Warrie	ewood D	SI		Lo	ogged	by:	LS
Test pit location	on: <b>2 <i>Ma</i></b>	Macpherson	Street, V	Varriewood, NSW		С	hecke	d by:	JS
equipment type a	and model:			Pit Orientation: Ea	asting: m			R.L.	Surface:
excavation dimen	nsions: n	m long m wide n	e material su	ubstance	orthing: m			datu	m: AHD
ation	notes	25	g ion	matorial			cy/ dex	ket etro- er	
benetra	samples,	les,	bhic lo sificat			sture dition	sisten sity in		structure and additional observations
vate 1 2 3		RL metres	grap clas sym	soil type: plasticity or particle charac colour, secondary and minor comp	cteristics, onents.	mois conc	cons dens	400 <b>KFa</b> 300 4 400 4	
	E+6.3ppn E+6.5ppn	ppm		Concrete FILL (CLAY): high plasticity, with some fir grained sand, crushed sandstone, dark br gravel becoming stiff clay @ 0.4m Test pit TP04 terminated at 0.6m	e to medium own terracotta,	M			
method DT diatut PT push SS soild e HS hollow VT V Bit, AH air ha CP cable HA hand NDD non-d RC rock c	be tube stem flight auger v stem flight auge T Bit mmer percussive auger estructive digging corer	penetration 1 2 3 4 uger water ying ging ↓ 10/1/ ↓ 0n da ↓ water ↓ water	<ul> <li>no resistance ranging to</li> <li>refusal</li> <li>98 water level ate shown</li> <li>r inflow</li> <li>r outflow</li> </ul>	notes, samples, tests         U <sub>50</sub> undisturbed sample 50mm diam         U <sub>83</sub> undisturbed sample 63mm diam         D       disturbed sample         V       vane shear (kPa)         Bs       bulk sample         E       environmental sample         R       refusal	eter soil desc based o system moisture D dr M m W w Wp pl: W <sub>L</sub> liq	ation sym cription n unified c y oist et astic limit uid limit	bols and	d ation	consistency/density index         VS       very soft         S       soft         F       firm         St       stiff         VSt       very stiff         H       hard         Fb       friable         VL       very loose         L       loose         MD       medium dense         D       dense         VD       very dense

coffey ?	
Excavation No. TP05	
Engineering Log - Excavation Sheet 1 of 1 Office Job No.: SYDEN:	205656
Client: Meriton Group Date started: 16.5.201	7
Principal: Date completed: 16.5.201	7
Project: Meriton Warriewood DSI Logged by: LS	
Test pit location:       2 Macpherson Street, Warriewood, NSW       Checked by:       JS	
equipment type and model:     Pit Orientation:     Easting:     m     R.L. Surface:	
excavation dimensions:     m long     m wide     Northing:     m     datum:     AH       excavation information     material substance	ID
notes samples, D D D C Luci c C D D C Luci c C D D C Luci c C D C C Luci c C D C C Luci c C C C C C C C C C C C C C C C C C C	ture and
01 +123       10 ±       123       10 ±       tests, etc.       depth RL metres       12 ±	observations
Image: Market State Sta	or odour observed
E+3.2ppm -	_
	_
	_
fragments of steel + plastic	_
E+2.6ppm	_
plasticity, with some sub-angular gravel and crushed terracotta	_
	_
	-
E+2.3ppm 1.0	
Test pit TP05 terminated at 1m	
	_
	_
	-
	-
method     penetration     notes, samples, tests     classification symbols and     consistency/de       DT     diatube     1 2 3 4     U <sub>s0</sub> undisturbed sample 50mm diameter     soil description     VS	ensity index very soft
PT push tube no resistance ranging to D disturbed sample 63mm diameter based on unified classification S S solid stem flight auger ranging to D disturbed sample 63mm diameter based on unified classification S F S below term flight auger fields and the set of the s	soft firm stiff
VT     V Bit     Bs     bulk sample     moisture     VSt	very stiff hard
AH air nammer water E environmentai sample D dry H	
AH     air nammer     water     E     environmental sample     D     ory     H       CP     cable percussive     Image: CP     10/1/98 water level on date shown     R     refusal     M     moist     Fb       VD     on date shown     VL     VL     VL     VL     VL	friable very loose

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				<b>;y</b>								Ē	Excavat	tion N	No.	TP06
E	nç	in		ring	L	og	- E	Exc	avation			ę	Sheet	'ah N	1	1 of 1
Clie	ent:			Merit	ton (	Grou	a a						Date st	arted	10 1:	16.5.2017
Prir	псіра	I:				-	,					[	Date cc	omple	eted	16.5.2017
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	by:		LS
Tes	t pit !	ocatio	on:	2 Ma	cph	erso	n Str	eet, I	Narriewood, NSW			(	Checke	d by:	:	JS
equi	pment	type a	and mo	idel:					Pit Orientation:	Easting:	m				R.L.	Surface:
exca ex	cava	tion	isions: infori	mation	1 long	m wic	ie mate	erial s	ubstance	Northing	: m				datu	IM: AHD
	ration	Ţ	T	notes	T		ß	ition	material				lcy/ ndex	Sket	ter	
sthod	penet	ater		samples, tests, etc	1	depth	aphic Ic	tssifice mbol	soil type: plasticity or partic	e characteristic	ns.	visture	nsister nsity ir	kF	ړ و م a	structure and additional observations
щ	12:	3		<u> </u>	RL	metres	gr:	sy cla	colour, secondary and min	ior components	S.	ĔÖ	g <u>õ</u>	200 200	400	No ACM staining or adour observed
					-			, X	orange, low plasticity, with some t	iles	IOWITE	IVI				
				E+3.1ppm	a	_										-
					-											
						_		e X X								-
						_			FILL (Clayey SAND): fine grainer	d, brown to gre	y to					-
									black, low plasticity, potential acid some asphalt, glass fragments, tr	sulfate soils, v ace ash, sub-a	vith angular					
								×								-
					-	0. <u>5</u>										_
								, X								
				E+2.3ppm	۱	-										-
					1	-		k X								-
								×								
						-			Test pit TP06 terminated at 0.8m							
																_
																-
						1. <u>0</u>										_
						_										_
						_										_
met	thod				per	netratior	Ļ		notes, samples, tests		classific	ation sy	mbols an	<u>     </u>		consistency/density index
DT PT	lie.	diatuk push	oe tube		1 2	234	— no re	sistance	$U_{50}$ undisturbed sample 50m $U_{63}$ undisturbed sample 63m	ım diameter ım diameter	soil desc based of	ription n unified	classific	ation		VS very soft S soft
SS HS	SS soild stem flight auger HS hollow stem flight auger VT V Bit. T Bit HS hollow stem flight auger									system					F firm St stiff	
AH CP		v ыл, air ha cable	mmer percu:	ssive	wat	ter		- Laural	E environmental sample R refusal		D dr M m	y oist				VSt very stin H hard Fb friable
HA ND	D	hand non-c	auger lestruc	tive digging	<b> </b> <u>▼</u>	on d	/98 wai Jate sho	ter level own			W we Wp pl	et astic lim	it			VL very loose L loose
RC		rock c	orer			wat	er outflo	y w			W <sub>L</sub> liq	uid limit				MD medium dense D dense VD verv dense

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				<b>;y</b>								Ē	Excavat	tion N	٧o.	<b>TP</b> 07	
E	nc	in		ring	L	og	- E	Exc	avation			e	Sheet	Ich N	<u>ام ،</u>	1 of 1	
Clie	ent:			Merit	ton (	Grou	p						Date st	arted	lo I:	16.5.2017	
Prir	ncipa	1					,					[	Date co	omple	eted	: <b>16.5.2017</b>	
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	by:		LS	
Tes	t pit l	ocatic	on:	2 Ma	cph	erso	n Str	eet, I	Narriewood, NSW			(	Checke	d by:	: _	JS	
equi	pment	type a	ind mo	idel:					Pit Orientation:	Easting:	m				R.L.	. Surface:	
exca ex	cava	tion i	nforr	mation	1 lõng	m wic	nate	erial s	ubstance	NOT (FIII) 19	j: m				datu	JM: AHD	_
	ration	Ţ		notes	T		ß	ation	materia				lcy/ hdex	cket	iter -		
sthod	penet	ater		samples, tests, etc	1	depth	aphic Ic	issifice mbol	soil type: plasticity or partiv	cle characteristic	CS.	visture	nsister nsity ir	ŏ ia d kP	ja ja	structure and additional observations	
шĘ	123	S N		<u> </u>	RL	metres	gr:	syr	colour, secondary and mi	nor components	s. s.	й Ö М	g S	500	400 1	No ACM or odour observed	
					-			×	orange, low plasticity, with some	tiles	TOWING	IVI					
				E+5.1ppm	a												_
					-			×									
						_											_
									FILL (Clayey SAND): fine graine	ed, brown to gre	ey to						_
								×	black, low plasticity, potential acid some asphalt, glass fragments,	d sulfate soils, v trace ash inclus	with sions,						
								×	SUD-aliguiai graver, orusheu tont								_
								×									
					-	0. <u>5</u> _											
				E+4.6ppm	۱	-											_
					-	-											_
					$\square$				Test pit TP07 terminated at 0.8m	1				$\square$	+		
																	_
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					<u> </u>					i				<u>   </u>			
DT PT	hoa	diatut push	e tube		pen 1 2	2 3 4	no re	sistance	notes, samples, tests       U <sub>50</sub> undisturbed sample 50%       U <sub>e0</sub> undisturbed sample 63	mm diameter mm diameter	classific soil desc based or	ation syr ription	nbois an	d ation		Consistency/density index VS very soft S soft	
SS HS		soild s	stem fli v stem	ight auger flight auge		<u>}</u>	rangir refus:	ig to al	D disturbed sample V vane shear (kPa)	_	system		0.021			F firm St stiff	
VT AH		V Bit, air ha	T Bit mmer		wat	ter			Bs bulk sample E environmental sample		D dr	y oint				VSt very stiff H hard	
HA	D	hand hand	auger lestruc!	tive digging	<b>_</b>	10/1 on c	/98 wat late shc	ter level own	R IElusai		W We Wp pla	ət ət astic limi	it			VL very loose L loose	
RC		rock c	orer			wate wat	Inflow er outflc	v Sw			W <sub>L</sub> liq	uid limit				MD medium dense D dense VD verv dense	

(		C	f	fc	<b>N/</b>								_					
Α.			Г∎ I		<b>y</b>	•							E	Excavat	ion No		TP08	
Ē	Ēr	Ìġ	in	ee	ring	L	og	- E	Exc	avation			5	Sheet Office J	Ioh No.	1	of 1 SYDEN205656	
С	lien	ıt:			Merit	ton (	Grou	р						Date sta	arted:		16.5.2017	
Pi	rinc	cipal	:										[	Date co	mplete	ed:	16.5.2017	
Pi	roje	ect:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	by:		LS	
Te	est	pit l	ocatio	on:	2 Ma	cph	erso	n Str	eet, I	Warriewood, NSW			(	Checke	d by:		JS	_
eq	Juipr	ment	type a	and mo	idel:					Pit Orientation:	Easting:	m			R.	.L. Su	rface:	
ex e	cava XC	ation <b>ava</b>	dimer tion i	nsions: i <b>nforr</b>	mation	1 long	m wid	de mate	erial s	ubstance	Northing:	: m			da	atum:	AHD	
Γ	Τ	ation			notes			g	tion	material				cy/ dex	ket etro-	ō		
thod		penetr	ler		samples, tests, etc		donth	phic lo	ssificat nbol	coil type: plasticity or partic		_	isture	isisten isity in	Lood Lood kPa		structure and additional observations	
me	1	123	wat	DIG	,	RL	metres	gra	clas syn	colour, secondary and min	nor components	:S,	con	con den	200 300 300 300	00 4		
Ш										Crushed terracotta			М					
						1				FILL (SAND): fine grained, brow medium aub-angular gravel and	In to grey, trace to low plasticity cla	fine to						
					E+7.4ppm	ו	-		• • •									-
						-												
							_											_
									• •									
									CL	Silty CLAY: medium to high plas	sticity, grey to ye	llow to				Iro	on staining	-
										U aige								
						-	0. <u>5</u>											
					E+4.9ppm	n												
					<u> </u>													_
		$\square$								Test pit TP08 terminated at 0.6m								
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							1. <u>0</u>											
L											<u> </u>	• <b>16</b>					the states	
	etho 기 가	DC	diatut push	ce tube		pen 12	2 3 4	- no re	nietance	notes, samples, tests       U <sub>50</sub> undisturbed sample 50r       U <sub>50</sub> undisturbed sample 63r	mm diameter	classifica soil desc based or	ition syr ription	nbois an	<b>d</b> ation		consistency/density index           VS         very soft           S         soft	
S H	s IS		soild :	stem fli v stem	ight auger flight auge	, 💹		rangir refus	ng to al	D disturbed sample V vane shear (kPa)		system					F firm St stiff	
V A	T .H		V Bit, air ha	T Bit mmer		wat	ter			Bs bulk sample E environmental sample		moisture D dry	1				VSt very stiff H hard	
C H	P IA IDD		cable hand	percus auger	sive	<b>_</b>	10/1 on c	1/98 wat date sho	ter level	R refusal		M mo W we	oist et estic limi	i+			Fb friable VL very loose	
R	.C		rock o	corer	ive digging		wate	er inflow	v vw			Wp pia W <sub>L</sub> liqi	uid limit	t			MD medium dense D dense	

C	-	<mark>رار</mark>	fc									_					
A TE				<b>7 y</b>								I	Excava	tion No.	-	<b>TP09</b>	
E	nç	jin	<b>ee</b>	ring	L	og	- E	Exc	avation			\$	Sheet	Joh No	1	of 1 SYDEN205656	
Clie	ent:			Merit	ton (	Grou	p					 	Date st	arted:	<u>.</u>	16.5.2017	
Prir	ncipa	al:										ĺ	Date co	omplete	ed:	16.5.2017	
Pro	ject:			Merit	ton l	Warr	iewo	od D	SI			I	Logged	by:		LS	
Tes	st pit	locatio	on:	2 Ma	cph	erso	n Str	·eet, I	Warriewood, NSW			(	Checke	ed by:		JS	
equi	pmer	it type a	and mo	idel:					Pit Orientation:	Easting	: m			R.	.L. Su	irface:	
exca ex	vation	n dime	nsions: inforr	mation	1 long	m wio	de mate	erial s	ubstance	Northing	g: m			da	atum:	AHD	
	ation			Totos				LO LO					lex	et et			
рог	enetra	5		samples,			hic loç	sificati	nate	inal		ture	sistenc sity inc	pock pene		structure and additional observation	IS
meth	ם 12	safe 8	DID	lesis, ciu	RL	depth metres	grap	clast symi	soil type: plasticity or pa colour, secondary and	article characteristi d minor component	ics, ts.	mois conc	cons dens	кна 300 2 00 400 2 00	400 1		
ш				†					FILL (Gravelly SAND): fine to grey, sub-angular fine to or	to medium grained oarce gravels with	l, brown some	М			No	O ACM or odours observed	
					1			< × ×	crushed terracotta, trace asn								
				Е+6.5ррп	1												_
					1			Š									
								×									_
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							<i>V///</i>	СН	Silty CLAY high plasticity, gr	rey to red		1			Iro	on Staining	_
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						0.5											
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					1												-
				E+8.7ppm	ו												_
$\vdash$		$\square$	+	+	+		<u> /////</u>	1	Test pit TP09 terminated at 0	).8m					$\parallel$		
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met	hod	diatul	<u> </u>		pen 1 5	netration	<u> </u>		notes, samples, tests	- 50mm diameter	classific	ation sy	mbols an	<u>       </u> Id	+	consistency/density index	
PT		push soild	tube stem fl	ight auger		: , , 	- no re rangir	sistance ng to	U <sub>50</sub> undisturbed sample	e 63mm diameter	based or system	n unified	l classific	ation		S soft F firm	
HS VT		hollov V Bit	v stem T Bit	flight auger		•	<ul> <li>refusa</li> </ul>	al	V vane shear (kPa) Bs bulk sample	_	moisture				-	St stiff VSt very stiff	
AH CP		air ha cable	percus	ssive	wat	t <b>er</b> 10/1	1/98 wa	ter level	E environmental samp R refusal	ple	D dr M m	y oist				H hard Fb friable	
HA NDI BC	D	hand non-c	auger lestruct	tive digging		on d wat	late sho	own w			W we Wp pla	et astic lim	it			VL very loose L loose	
		TUCK	,0101			wate	er outflo	w			WL IIG	julu ilinit				D dense VD verv dense	50

ſ	•	<mark>رب</mark>	fc	<b>N /</b>	2	)						_					
				<b>7 У</b>								E	Excavat	tion No	).	<b>TP10</b>	
E	nç	jin	<b>ee</b>	ring	L	og	- E	Exc	avation			5	Sheet	Inh No	1	of 1	205656
Clie	ent:			Merit	ton (	Grou	p					<u> </u>	Date sta	arted:		16.5.201	7
Prir	ncipa	d:					-					[	Date cc	omplete	ed:	16.5.201	7
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	by:		LS	
Tes	st pit	locati	on:	2 Ma	cph	erso	n Str	reet,	Warriewood, NSW			(	Checke	d by:		JS	
equi	pmen	t type a	and mo	idel:	1000				Pit Orientation:	Easting	g: m			R	L. Su	urface:	
exca ex	.cava	tion	infori	mation	1 IOny		mate	erial s	ubstance		ng: m			Ű.	aturn.	Ап	D
method	5 penetration	o water	DIA	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or partic colour, secondary and min	le characteris	itics,	moisture condition	consistency/ density index	<sup>100</sup> A pocket <sup>200</sup> A pocket	400 IIIEIEI	struc additional	ture and observations
Э				E+6.5pprr	- -	0.5			FILL (Crushed terracotta) FILL (Sandy CLAY): medium to grey, fine to medium sand, with su and medium to coarse sub-angula	high plasticity ome crushed ar gravel, trac	y, borwn to sandstone æ ash	M				o ACM, Staining	or odours observed
	╟┼				+				Test pit TP10 terminated at 0.8m					$\left  \right  \left  \right $	++		
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met DT PT SS HS VT AH CP HA ND RC	ihod	diatul push soild hollov V Bit, air ha cable hand non-c	be tube stem fl v stem T Bit mmer percus auger lestruc corer	ight auger flight auger ssive tive digging	pen 1 2 wat	etration : 3 4 	<ul> <li>no rei rangin</li> <li>refusion</li> <li>refusion</li> <li>1/98 wa date sho er inflow</li> <li>er outflow</li> </ul>	sistance ng to al ter level own w	notes, samples, tests       U <sub>50</sub> undisturbed sample 50n       U <sub>63</sub> undisturbed sample 63n       D     disturbed sample       V     vane shear (kPa)       Bs     bulk sample       E     environmental sample       R     refusal	nm diameter nm diameter	classific soil desc based or system moisture D dr M m W w W p pla W_ liq	ation syr ription n unified y y oist at astic limit uid limit	nbols an classific	d ation		consistency/de VS S F St VSt H Fb VL L MD D V/D	nsity index very soft soft firm stiff very stiff hard friable very loose loose medium dense dense very dense

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ATE		FCH C		<b>y</b>	-							E	Excavat	tion No	Э.	TP11
E	nç	jin	<b>ee</b>	ring		og	- E	Exc	avation			5	Sheet	lob Nr	1	of 1 SYDEN205656
Clie	ent:			Merit	ton (	Grou	p						Date st	arted:		16.5.2017
Prir	псіра	d:				-						[	Date co	omplet	ed:	16.5.2017
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			l	_ogged	by:		LS
Tes	t pit	locati	on:	2 Ma	cph	erso	n Str	eet, l	Warriewood, NSW			(	Checke	ed by:		JS
equi	pmen	t type a	and mo	del:					Pit Orientation:	Easting:	m			F	R.L. Su	Irface:
exca	vatior	1 dime	nsions:	mation	1 long	m wio	de mate	erial s	ubstance	Northing:	m			d	latum:	AHD
	tion			notoo				ю					iy/ lex	iet etro-	5	
por	enetra	5		samples,			hic log	sificati bol	materia	11		sture	sistence sity inc	bene	mete	structure and additional observations
meth	<u>م</u> 12	s ate	DID	lesis, eic	RL	depth metres	grap	class	soil type: plasticity or part colour, secondary and n	icle characteristics, ninor components.	,	mois conc	cons dens	кра 0 2 0 0 2 0 0 0 2 0 0	400	
ш									FILL (Gravelly SAND): fine to r grey, sub-angular fine to meidu	medium grained, br m gravels	rown to	М			N	o ACM, staining or odours observed
					1							I				
				E+8.2ppm	ו	-						I				_
					-							I				
						-			FILL (Sandy CLAY): low to me	dium plasticity, bro	wn to	I				-
								•	grey, line grained, with some cr	ushed sandstone b	oulers	I				
						-						I				-
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						0. <u>5</u>						I				
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				E+8.1ppm	1							I				-
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met DT	hod	diatu	be		<b>pen</b> 1 2	etration	1		notes, samples, tests U <sub>50</sub> undisturbed sample 5 <sup>1</sup>	c 0mm diameter ه	classifica soil desc	ation syr ription	mbols an	d	Τ	consistency/density index VS very soft
PT SS		push soild	tube stem fl	ight auger		S.	<ul> <li>no res rangir</li> <li>refus</li> </ul>	sistance ng to al	U <sub>63</sub> undisturbed sample 63 D disturbed sample	3mm diameter b s	based or system	1 unified	classific	ation		S soft F firm
HS VT		V Bit,	v stem T Bit	flight auger	1				V vane shear (kPa) Bs bulk sample E environmental sample	r	<b>moisture</b>					St stiff VSt very stiff H bard
CP HA		cable hand	percus	ssive	wat	.er 10/1	l/98 wat	ter level	R refusal	Ň	V mo V we	oist et				Fb friable VL very loose
NDI RC	D	non-d rock (	estruct	tive digging		wate	er inflow	v		V V	Np pla N <sub>L</sub> liq	astic limi uid limit	it			L loose MD medium dense
						wate	er outflo	w								D dense VD very dense

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				<b>7 У</b>								E	Excavat	tion I	No.	TP1	2	
E	nç	in		ring	Lc	<u>)g</u>	- E	Exc	avation			ę	Sheet	1-0-1	1	1 of 1	ENDOSESE	
Clie	ent:	,		Merit	ton G	irou	<u></u>					(	Date st	artec	<u>10</u> 1:	16.5.	2017	
Prir	ncipa	I:				-	-					[	Date cc	omple	eted:	: <b>16.5.</b>	2017	
Pro	ject:			Merit	ton V	Varri	iewo	od D	SI			L	_ogged	by:		LS		
Tes	st pit !	locatio	on:	2 Ma	cphe	rsoi	n Str	eet, I	Warriewood, NSW			(	Checke	ed by	r <u>.</u>	JS		
equi	pmen	t type a	and mo	xdel:					Pit Orientation:	Easting:	m				R.L.	Surface:		
exca	vation	tion	isions:	mation	1 long	m wid	le mate	erial s	ubstance	Northing:	m				datu	ım:	AHD	
H	ation					-		5	materia				lex /	fet	5			
рог	enetra	5		samples,		ļ	hic loç	sificati	matena	1		sture dition	sistenc	pock	mete	addit	structure and ional observations	
meth	<u>م</u> 12	s afé	DID	16513, 510	RL n	depth netres	grap	class	soil type: plasticity or partic colour, secondary and m	cle characteristics inor components.	s,	mois conc	cons dens	200 th	300 400 400			
ш									FILL (Gravelly SAND): fine to m grey, crushed terracotta gravels,	nedium grained, b , with some low pl	brown to lasticity	М			$\square$	No ACM, sta	aining or odours observ	ed
	 			E - E Enno				×	clay									
	i			E+5.5ppm		1	$\bigotimes$											
	 						$\bigotimes$	•										
	i     '					1	×	, ,	FILL (Gravelly SAND): fine to m pale brown, fine to medium sub-	nedium grained, g angular gravel, w	grey to vith							-
	i     '								some steel fragments									
	i     '					Ţ		×										-
	i     '						$\bigotimes$	×										
	i					-	$\bigotimes$											_
	i     '					0.5	$\bigotimes$	•										
	i					0. <u>5</u>												
	i     '							*										
	i					-		×										-
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	i			E+8.9ppm	1	-	$\bigotimes$	5										-
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met	thod	diatul		<u> </u>	pene'	tration	<u> </u>	<u> </u>	notes, samples, tests		classifica	ation syr	mbols an	d		consister	ncy/density index	
PT		push soild	ie tube stem fl	light auger		3 4	- no res rangii	sistance ng to	$U_{50}$ Undisturbed sample 50 $U_{63}$ undisturbed sample 63 D disturbed sample	mm diameter	based or system	1 unified	classific	ation		və S F	soft soft	
HS VT		hollov V Bit,	v stem T Bit	flight auger			<ul> <li>refusa</li> </ul>	Ĩ	V vane shear (kPa) Bs bulk sample	-	moisture	,			-	St VSt	stiff very stiff	
AH CP		air ha cable	mmer percus	ssive	water	<b>r</b> 10/1	1/98 wa	ter level	E environmental sample R refusal		D dry M mo	/ oist				H Fb	hard friable	
HA NDI RC	D	hana non-d	auger lestruct	tive digging	<u>⊥</u>	on d wat∉	ate sho er inflov	wn v			W we Wp pla	et astic limi wid limit	it				very Ioose loose medium dense	
		TOOR C				wate	er outflc	w			WL IIY					D	dense verv dense	

C		۰f	fc		7	)						_						
				<b>7 У</b>	•							E	Excavat	tion I	No.		<b>TP13</b>	
E	nç	in		ring	L	og	- E	Exc	avation			5	Sheet	Inh N	- I.A	1 c	of 1 <b>CVDEN2</b> (	05656
Clie	nt:	-		Merit	ton (	Grou	p						Date sta	artec	10 1:		16.5.2017	///////////////////////////////////////
Prin	icipa	al :				-	,					[	Date co	mple	eted	d:	16.5.2017	•
Proj	ect:			Merit	ton I	Warri	iewo	od D	SI			L	_ogged	by:			LS	
Tes	t pit	locati	on:	2 Ma	cph	ersoi	n Str	reet, l	Warriewood, NSW			(	Checke	ed by	-		JS	
equir	pmer	it type a	and mo	del:					Pit Orientation:	Easting:	m				R.L	Surf	face:	
excar exc	vatio	n dimer	nsions: inforr	mation	1 long	m wic	de mate	erial s	ubstance	Northing:	m				dat	:um:	AHD	1
Ē	ation							5	metorial				lex /	tet	່ ວ່			
po	enetra	5		samples,			hic loç	sificati bol	materia			ture	istenc sity inc	bock	mete		structu additional o	ure and observations
meth	م 12	s ate	OId	TESIS, EIU	RL	depth metres	grap	class syml	soil type: plasticity or particle colour, secondary and mine	e characteristics, or components.		mois	cons dens	200 100 100	300 400 <b>B</b>			
ш	Π								FILL (Gravelly SAND): fine to me grey, sub-angular medium to coard	dium grained, bro se crushed terrac	own to cotta	М				No	ACM, staining c	r odours observed
				E+5.4ppm	n			×	gravels									
					-			×										
						-	×××	SP	SAND: fine to medium grained, bro	own to grey, with								
								;	some sub-angular fine to medium plasticity clay	gravel, trace low	'							
								•										
						0. <u>5</u>		:										_
								:										
				E+3.7ppm	n			•										
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						1.5												
met	hod	diatu	l	1	pen	etration	I	<u> </u>	notes, samples, tests	ci um diameter s	lassific	ation sy	nbols an	d			consistency/den	sity index
PT		push soild	tube stem fl	ight auger			- no re rangir	sistance ng to	U <sub>63</sub> undisturbed sample 50m D disturbed sample	m diameter b	ased or	cation symbols and scription on unified classificat				5	S so F fi	oft rm
HS VT		hollov V Bit	v stem T Bit	flight auger		<u></u>	⊢ refusa	al	V vane shear (kPa) Bs bulk sample	m	noisture	,				- 5 \	St st √St v∉	tiff ery stiff
AH CP		air ha cable	percus	ssive	wate	<b>er</b> 10/1	1/98 wa	ter level	E environmental sample R refusal		D dry /I mo	y pist					H ha Fb fr	ard iable
NDI RC	С	non-c	lestruct	live digging		on d wate	late sho er inflov	own v		vi vi	v we Vp pla V. lig	astic limi uid limit	it				L lo MD m	ose nedium dense
						wate	er outflo	w			·L "Y	IIIII					D dr	ense env dense

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			сн с		<b>, y</b>								E	Excavat	tion I	No.	7	Γ <b>Ρ</b> 14		
E	.n(	gi	in	<b>ee</b>	ring	L	og	- E	Exc	avation			5	Sheet	IOP N		1 of		205656	
Cli	ent:	_			Merit	ton (	Grou	р					<u> </u>	Date st	artec	10	1	16.5.20	)17	
Pri	ncip	al:											ſ	Date cc	omple	eted	l: <b>1</b>	16.5.20	)17	
Pro	oject	:			Merit	ton I	Warri	iewo	od D	SI			L	_ogged	by:		L	_S		
Te	st pil	t lo	catic	on:	2 Ma	cph	ersoi	n Str	eet, I	Warriewood, NSW			(	Checke	ed by	:	J	IS		
equ	ipme	nt t	ype a	ind mc	del:					Pit Orientation:	Easting:	: m				R.L.	. Surfac	ce:		
exc ex	avatic (cav	on a vati	limen ion i	isions: i <b>nfori</b>	mation	1 long	m wic	le mate	erial s	ubstance	Northing	j: m				datu	um:	F	\HD	
po	anatration	מוכרומיילי.			notes samples,			hic log	sification	material			ture lition	istency/ ity index	pocket	meter		stru addition	ucture and al observation	ns
meth	۵ 12	≟ 23_	wate	DIG	tests, etc	RL	depth metres	grapl	class	soil type: plasticity or partic colour, secondary and mir	le characteristi nor component	CS, S.	cond	cons dens	61 00 00 00 K⊢	300 400 <b>B</b>				
ш						-			× × ×	FILL (Gravelly SAND): fine to me grey, sub-angular medium to coal gravels	edium grained, rse crushed ter	, brown to rracotta	М				No A0	CM, stainii	ng or odour ob	served
					E+3.9ppm	1	1		ž											_
									4	Asphalt trace ash										_
																				_
									SP	SAND: fine to medium grained, bu some sub-angular fine to medium plasticity clay	own to grey, w gravel, trace l	<i>i</i> ith ow								
							0.5		•											
						-	0													
					E+4.0ppm	1			•											_
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⊢			$\vdash$	<u> </u>	<u> </u>	+	1.0	··		Test pit TP14 terminated at 1m						++-				
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me DT	thod		diatut		<u> </u>	pen	1.5 letration 2 3 4	1	<u> </u>	notes, samples, tests	nm diameter	classific soil desc	ation syn	mbols an	ıd		<b>co</b>	nsistency/	density index	
PT SS	\$	۲ ۲	oush f soild	tube stem fi	ight auger		۶.	─ no re rangii	sistance ng to	U <sub>63</sub> undisturbed sample 63n D disturbed sample	nm diameter	based or system	n unified	classific	ation		S F		soft firm	
HS VT AH		h ۱	lollow V Bit, air ha	/ stem T Bit	flight auger		<u></u>			V vane shear (kPa) Bs bulk sample F environmental sample		<b>moisture</b>	• •				St VS	št	stiff very stiff hard	
CF HA	, 4	c ł	cable hand	percus auger	sive	wat	<b>פר</b> 10/1 סח נ	i/98 wa late shi	ter level	R refusal		M me W we	, oist et				Fb VL	-	friable very loose	
NE RC	iD ;	n r	ion-d ock c	estruct ;orer	ive digging.		wate	er inflov	v ow			Wp pla W <sub>L</sub> liq	astic limi uid limit	it			L MC D Vr	) )	loose medium den dense verv dense	se

С	•	ſ	fc	ער י	7	)						_				
ATE	TRA	TECH C		<b>Y</b>	-							E	Excava	tion M	<b>١</b> ٥.	TP15
E	nç	jin	ee	ring	j L(	og	- E	ixc	avation			5	Sheet Office ,		1 In <sup>.</sup>	of 1 -SYDEN205656
Clie	ent:			Merit	ton (	Grou	p					[	Date st	arted	:	16.5.2017
Prir	ncipa	al:										[	Date co	omple	eted:	16.5.2017
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	l by:		LS
Tes	t pit	locati	on:	2 Ma	cph	erso	n Str	eet, I	Warriewood, NSW			(	Checke	ed by:	:	JS
equi	pmer	nt type a	and mo	idel:					Pit Orientation:	Easting:	m				R.L. S	Surface:
exca ex	vatio	n dimer ation	nsions: infori	mation	1 long	m wic	ie mate	erial s	ubstance	Northing:	m				datum	i: AHD
	ration			notes			D <sup>D</sup>	tion	materia				icy/ idex	ket	ier.	
thod	peneti	ter		samples, tests, etc	:	denth	phic Ic	ssificat	soil type: plasticity or parti			isture	nsisten nsity ir	kF	a a	structure and additional observations
me	12	3 2	L L		RL	metres	gra	syn	colour, secondary and mi	nor components.	10	cor	cor	100	400	
ш					-			×	FILL (Gravely SAND): time to m grey, sub-angular medium to coa gravels	iedium grained, bro arse crushed terrac	own to cotta	М				Io ACM, staining or odours observed
				E+3.9ppm	n			×								-
					-			×								
						-		SP	SAND: fine to medium grained, b some sub-angular fine to mediur	prown to grey, with m gravel, trace low						-
									plasticity clay	ng.u.u.,						_
								;								
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					-	0. <u>5</u> _		:								_
				E+3.6ppm	1											
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met	hod		<u> </u>	<u> </u>	per	1.5 netration	Ļ		notes, samples, tests	cl	lassifica	ation sy	mbols an	l		consistency/density index
DT PT		diatul push	be tube	light quar	1 2	:34	- no re	sistance	U <sub>50</sub> undisturbed sample 50 U <sub>63</sub> undisturbed sample 63	mm diameter so mm diameter ba	oil desc ased or	ription 1 unified	classific	cation		VS very soft S soft
HS VT		hollov V Bit	N stem , T Bit	flight auger	1	-	⊢ refusa	al	V vane shear (kPa) Bs bulk sample		noisture				-	St stiff VSt verv stiff
AH CP		air ha cable	immer percus	ssive	wat	:er 10/*	1/98 wa	itor loval	E environmental sample R refusal	D	dry 1 mc	/ bist				H hard Fb friable
HA ND	D	hand non-c	auger Jestruc	tive digging		on d	Jate sho	Jwn		w w	√ we Vp pla	et astic limi	it			VL very loose L loose
RC		rock	corer			wat	er outflo	) w		v	7 <sub>∟</sub> liqi	Jid limit				MD medium dense D dense VD verv dense

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ATE	TRA				-							E	Excavat	tion No	۱.	TP16				
E	nç	jin	iee	ring	L	og	- Excavation							Iob No.	1	of 1 SYDEN2056;	56			
Clie	ent:			Merit	ton (	Grou	p						Date st	arted:	<u>.</u>	16.5.2017				
Prir	ncipa	al:										[	Date cc	omplete	ed:	16.5.2017				
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	by:		LS				
Tes	st pit	locati	ion:	2 Ma	cph	erso	n Str	eet, I	Warriewood, NSW			(	Checke	ed by:		JS				
equir	pmer	it type	and mc	xdel:					Pit Orientation:	Easting:	m			R	.L. Su	Surface:				
exca ex	cav	n dime ation	infor	mation	1 long	m wid	de mate	erial s	ubstance	Northing	: m			08	atum:	.um: AHD				
	ration		Ţ	notes	T		۲ ۳	tion	material				lcy/	Xet Detro-	ō					
sthod	penet	ter .		samples, tests, etc	;	depth	aphic Ir	issifice mbol	soil type: plasticity or particle	e characteristic	20	visture	nsister nsity ir	kPa		structure an additional observ	id vations			
ue III	12	3	- DIC	<u> </u>	RL	metres	gra gra	syr a	colour, secondary and min	or components	3. 3.	CO CO M	dei G	300 10	- N	ACM Staining or odd	ours observed			
									FILL (Gravelly SAND): fine to me	dium grained,	brown to	IVI				0 ACIVI, Stalling of 000	UIS OUSEI VEG			
						_			grey, sub-angular medium to coar	segrained grav	vels						-			
								ž												
					1			X									-			
				E+7.8ррш		_		×									_			
								SP SAND fine to medium grained, brown to grey, with some sub-angular fine to medium gravel, trace low plasticity clay, organic material (wood)												
						-											-			
					-	0. <u>5</u>														
				E : 0 0ppp																
				E+3.2ppm													-			
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	$\downarrow$	<u>  </u>	<u> </u>		<u> </u>	1.0			T-at sit TD16 terminated at 1m						<u>  </u>					
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met	thod				per	1.5 netration	<u>ل</u>	<u> </u>	notes, samples, tests	Barnetor	classific	ation sy	mbols an	 Id	+	consistency/density index				
PT		diatu push soilc	be tube stem f	light auger		234	— no re rangi	sistance ng to	U <sub>50</sub> undisturbed sample born U <sub>63</sub> undisturbed sample 63m D disturbed sample	U <sub>50</sub> undisturbed sample 50mm diameter <b>soil des</b> U <sub>63</sub> undisturbed sample 63mm diameter based o D disturbed sample			classific	ation		VS very sor S soft F firm	ft			
HS VT		hollo V Bi	w stem t, T Bit	flight auger			<ul> <li>refusa</li> </ul>	ΞĨ	V vane shear (kPa) Bs bulk sample	⊢	moisture	•			+	St stiff VSt very stif	ff			
AH CP		air ha cabl	ammer e percu	ssive	wat	<b>ter</b> 10/΄	1/98 wə	iter level	E environmental sample R refusal		D dry M m	y oist				H hard Fb friable				
HA NDI RC	D	hano non- rock	auger destruc	tive digging	┢	on d - wat	late sho er inflov	own w			W we Wp pla W. lig	et astic limi wid limit	it			VL very loo L loose MD mediun	)Se m dense			
RC rock corer			corer wa				er outflo	wc	W <sub>L</sub> liq							MD medium dense D dense				

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ATE	ETRA	TECH		<b>Y</b> NY								E	Excavat	tion N	0.	TP17	
E	nę	gir	iee	ring	L	og	- Excavation							Job No	1 0.:	of 1 <b>SYDEN205656</b>	
Clie	ent:			Merit	ton (	Grou	p						Date st	arted:		16.5.2017	
Prir	ncip	al:										[	Date cc	mplet	ed:	16.5.2017	
Pro	ject	:		Merit	ton V	<b>Narr</b> i	iewo	od D	SI			L	_ogged	by:		LS	
Tes	st pit	locat	ion:	2 Ma	cphe	ersoi	n Str	eet, I	Warriewood, NSW			(	Checke	ed by:		JS	
equi	pme	nt type	and mo	odel:					Pit Orientation:	Easting:	m			I	R.L. Su	urface:	
exca exc	ivatic	in dime	insions:	mation	1 long	m wic	de mate	erial s	ubstance				Jatum:	: AHD			
	ration	5	$\square$	notes			D D	ution	material	material			icy/ idex	:ket Jetro-	ter		
thod	nenet	- L	;   _	samples, tests, etc	;	depth	aphic Ic	ssifice	soil type: plasticity or particl	le characteristics.		uisture ndition	nsiter nsity ir	kPa kPa	a a	structure and additional observations	
me T	12	3		<u> </u>	RL	metres	drs Grs	syr	colour, secondary and min	or components.		C III	de C	30 00 10 30 10	400	- ACM staining or adours obeen	iod.
					-				FILL (Crusned terracotta)	-dium grained, bro	own to	IVI				To ACM, staining or odours observ	ea
				E+4.4ppm	ו	_!		X	grey, sub-angular medium to coar tracel low plasticity clay	se grained gravel	ls,						_
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						7		<u></u>									_
								SP ·	SAND: fine to medium grained, br some sub-angular fine to medium	own to grey, with gravel, trace low						_	
								:	plasticity clay, organic material (w	(DOO)							
					-	0. <u>5</u>											
				E+9.4ppm	ו			:									
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$\vdash$	H	++-	+	+	<u> </u>	1.0	·····	┼───	Test pit TP17 terminated at 1m					$\left  \right  \left  \right $	+		
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met	thod		<u> </u>		pen	etration	Ļ	<u> </u>	notes, samples, tests	C	lassifica	ation syr	mbols an	d		consistency/density index	
DT PT SS		diati pusi soil	ibe i tube stem f	light auger	1 2	34	— no re rangi	sistance	U <sub>50</sub> undisturbed sample burn U <sub>63</sub> undisturbed sample 63m	nm diameter so nm diameter b	ased or	ription 1 unified	classific	ation		VS very sont S soft F firm	
HS VT		holle V B	w stem t, T Bit	flight auger	1	-	⊢ refusa	aĭ	V vane shear (kPa) Bs bulk sample	n a	noisture				-	St stiff VSt very stiff	
AH CP	,	air h cab	ammer e percu	ssive	wate	er 10/	1/08 wa	ter lovel	E environmental sample R refusal	D	) dry // mo	/ oist				H hard Fb friable	
HA NDI	D	han non	l auger destruc	tive digging:		on d	Jate sho	JWN		v v	V we Vp pla	et astic limi	it			VL very loose L loose	
RC rock corer				corer wat				er inflow W <sub>L</sub> liq								MD medium dense D dense VD verv dense	

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	Excavation No.														No.	TP18
E	nç	gin	<b>ee</b>	ring	j L(	og	- E	Exc	avation			5	Sheet	Ioh N		1 of 1 SVDEN205656
Clie	ent:			Merit	ton (	Grou	ip							arted	l0	16.5.2017
Prir	ncipa	al:					•					[	Date co	omple	eted:	16.5.2017
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	l by:		LS
Tes	t pit	locati	on:	2 Ma	cph	erso	n Str	reet, I	Narriewood, NSW			(	Checke	ed by:	:	JS
equi	pmer	nt type a	and mo	xdel:					Pit Orientation:	Easting:	m				R.L. \$	Surface:
exca exc	vatio	n dime ation	nsions: <b>infori</b>	mation	ו long	m wid	de mate	erial s	ubstance	Northing:	m				datur	n: AHD
	ation			notes			g	tion	material				icy/ idex	ket etro-	er c	
thod	penetr	fe		samples, tests, etc	:	denth	phic Ic	ssificat	coil troe: plasticity or particle	- characteristics		isture	isisten sity in	od kP	a a	structure and additional observations
met	12	3 ×	PIC		RL	metres	gra	clas syn	colour, secondary and mine	er components.		con	con der	200	300 5 400 5	
ш							×	*	FILL (Crushed terracotta)	e to medium grain	<u></u>	М				No ACM, staining or odours observed
					-	-	4.4.4 .4		sub-angular fine to coarse grained	gravels	ieu,					-
							A A A L	4								
				E+5.4ppm	۱	-	<u></u>	·								-
							1. 	7								
					1	-			+							-
								SP	SAND: fine to medium grained, brown to grey, with some sub-angular fine to medium gravel, trace low							_
									plasticity clay, organic material (wo	(boc						
			-			0. <u>5</u>		:								
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	+			+		1.0	·····		Test pit TP18 terminated at 1m		-+			$\vdash$		
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met	hod	diatu	<u> </u>		pen	1.5 netration	<b>ـــــ</b>	<u> </u>	notes, samples, tests	Cli	lassific:	ation sy	mbols an	l	÷	consistency/density index
PT		push soild	tube stem fl	light auger		. 3 4 5	— no re rangi	sistance	U <sub>50</sub> Undisturbed sample 50m U <sub>63</sub> undisturbed sample 63m D disturbed sample	m diameter ba	ased or	unified	classific	ation		S very soft S soft F firm
HS VT		hollo V Bit	w stem , T Bit	flight auger	r 📟		⊢ refusa	aľ	V vane shear (kPa) Bs bulk sample	m	noisture				$\neg$	St stiff VSt very stiff
AH CP		air ha cable	immer percu:	ssive	wat	:er 10/ <sup>-</sup>	1/98 wa	ater level	E environmental sample R refusal	D M	dry I mo	pist				H hard Fb friable
HA NDI	D	hand non-o	auger lestruc	tive digging		on d	late sho	own w		W W	/ we /p pla	t Istic limi	it			VL very loose L loose
RC rock corer						wat	er outflo	wc		vv	, iidi	JILLIII DIL				D dense VD verv dense

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A TE	Excavati A TETRA TECH COMPANY													tion I	No.	TP19				
E	ng	jin	<b>ee</b>	ring	L	og	- Excavation							Inh N	No ·	1 of 1		05656		
Clie	ent:			Merit	ton (	Grou	p						Date st	artec	d:	16	5.2017	7		
Prir	ncipal	:					,					[	Date cc	omple	eted	1: <b>16.5.2017</b>				
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	by:		LS	\$			
Tes	t pit l	ocatic	on:	2 Ma	cph	ersoi	n Str	eet, I	Warriewood, NSW			(	Checke	d by	r:	JS	JS			
equi	pment	type a	ind mo	del:	1-124				Pit Orientation:	Easting:	m				R.L	Surface:				
exca ex	cava	tion i	isions. I <b>nfori</b>	mation	1 IONY	m wic	nate	ərial s	ubstance	NOTUTIN	j: m				ປລແ	um:	AHL	)		
	ration	Ţ		notes	notes		ß	ation	material				ndex	cket	ter -		structure and			
sthod	penet	ater		samples, tests, etc		depth	aphic Ic	tssifice	soil type: plasticity or partic	le characteristi	ics.	visture	nsister nsity ir	nsister nsity ir kba mer		additional observation		IS		
ĔШ	123	Ň	Ē	<u> </u>	RL	metres	sym sym		colour, secondary and minor components.			й Ö м	<u>ð</u> <del>g</del>	20 <u>1</u> 0	400	No ACI	1 staining (	or odours of	rserved	
								*	sub-angular fine to coarse crushe gravel	ed terracotta an	id ballast					NO AG.	l, stanning s	JI OUOUIO C.		
				F+4.8ppm	'n	-													_	
					-														-	
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					-	_		×										_		
				E+3.7ppm	1	0. <u>5</u>														
									FILL (Gravelly CLAY): low pastie grey, fine to coarse sub-angular g	FILL (Gravelly CLAY): low pasticity, brown to green to grey, fine to coarse sub-angular gravel, with some crushed terracotta pot gravels										
								×	Clushed letracolla poligravelo								-			
				F+4 7ppm	n			×											_	
				ь: <sub>Р</sub> р.																
					-	-		×											-	
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met	hod	<u> </u>	<u> </u>		pen	etration	<u> </u>	<u> </u>	notes, samples, tests		classific	ation sy	mbols an	d		cons	istency/den	isity index		
DT PT SS		diatub push ' soild	ie tube stem fl	light auger	1 2	: 3 4	- no re rangi	sistance ng to	U <sub>50</sub> undisturbed sample 50n U <sub>63</sub> undisturbed sample 63n D disturbed sample	nm diameter nm diameter	soil desc based or system	ription n unified	classific	ation		VS S F	vi Si fi	ery soft oft irm		
HS VT		hollov V Bit,	v stem T Bit	flight auger		<u></u>	⊢ refusa	al	V vane shear (kPa) Bs bulk sample	F	moisture	,				St VSt	S	tiff ery stiff		
AH CP HA		air hai cable hand	mmer percus	ssive	wate	. <b>er</b> 10/1	1/98 wa	ter level	E environmental sample R refusal		D dry M mo	y oist at				H Fb VI	h fr	ard iable erv loose		
NDI RC	D	non-d rock (	estruct	live digging		on d wate	ate sho er inflov	wn v			Wp pla W <sub>L</sub> liq	astic limi Juid limit	it			L MD	lc n	oose nedium den <sup>,</sup>	se	
					► wa wa			w			2 .						d v	ense erv dense		
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					<b>, y</b>								E	Excavat	tion I	No.		TP20		
E	. <b>n</b> (	gi	in	<b>ee</b>	ring	j L	og	- E	Exc	avation			5	Sheet	Inh I	NIO .	1 ·	of 1	205656	
Clie	ent:	_			Merit	ton (	Grou	ip					<u> </u>	Date st	arter	d:		16.5.20	<u>200000</u> 17	
Pri	ncip	oal:											ſ	Jate cc	ompl <sup>,</sup>	etec	d:	16.5.20 <sup>-</sup>	17	
Pro	oject	t:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	by:			LS		
Te	st pi	t lor	catic	on:	2 Ma	cph	ersoi	n Str	reet, I	Warriewood, NSW			(	Checke	ed by	/:		JS		
equ	ipme	ent ty	уре а	nd mo	del:					Pit Orientation:	Easting:	m			_	R.L	L. Sur	rface:		
exca ex	avatio	on d vati	limen on i	sions:	mation	n long	m wic	de mate	erial s	ubstance	Northing:	m				dat	tum:	Al	HD	
$\square$	-+inn	allui			notes			D <sub>D</sub>	tion	material				icy/ idex	ket	etro- ter	$\square$			
thod	- anet	Deller	fer		samples, tests, etc		denth	phic Ic	ssificat	coil type: plasticity or partic	la abaracteristic	~	isture	ısisten ısity in	k k	E de E de Pa		strue additiona	cture and I observation	IS
me	12	23	wat	PIC		RL	metres	gra	clas syn	colour, secondary and min	le characteristic	S,	con	con der	100	900 400 7			1	
ш					[	-			Ś	FILL (Gravelly SAND): time to me terracotta gravels	edium grained, o	crushed	М				No	ACM, staining	g or odours od	served
					E+4.2ppn	n	_		ż											_
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$\vdash$	$\frac{1}{1}$	H	<u> </u>	$\vdash$			1.0	ŀ		Test pit TP20 terminated at 1m					$\left  \right  \right $	+	+			
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							1.5							la er	<u>   </u>		$\downarrow$			
DT	thoa	d r	liatub oush	ie tube		pen 12	1etration 234	 no_re	oistance	notes, samples, tests       U <sub>50</sub> undisturbed sample 50m       U <sub>20</sub> undisturbed sample 63n	nm diameter	soil desc	ation syr ription	nbois an	d ration			consistency/a VS S	ensity index very soft soft	
SS HS	; 3	۲ ۲	soild s	stem fli v stem	ight auger flight auge	, 💹	<u></u>	rangir rangir	al	D disturbed sample V vane shear (kPa)		system	Turmoc	Classing	auon			F St	firm	
VT AH	•	V 2	/ Bit, air ha	T Bit mmer	0 0	wat	iter			Bs bulk sample E environmental sample		<b>moisture</b> D dr	y y					VSt H	very stiff hard	
CP HA	, 1	c h	able: and	percus auger	sive	<b>_</b>	- 10/1 - on c	1/98 wa date shr	ter level own	R refusal		M me W we	oist et					Fb VL	friable very loose	
RC	) ;	n ri	or-a	orer	ive algging		wate	er inflov	v			Wp pla W <sub>L</sub> liq	uid limit	t				L MD D	medium dens	e
j –							wate	er outflc	)W									VD	very dense	

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A TE				<b>7 У</b>								E	Excavat	tion N	No.	TP21
E	nç	jin	<b>ee</b>	ring	L(	og	- E	Exc	avation			5	Sheet	Ioh N	.lo ·	1 of 1 SVDEN205656
Clie	ent:			Merit	ton (	Grou	p						Date st	arted	10	16.5.2017
Prir	ncipa	al:										٢	Date cc	omple	eted	d: <b>16.5.2017</b>
Pro	ject:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	by:		LS
Tes	st pit	locati	on:	2 Ma	cph	ersol	n Str	·eet, I	Warriewood, NSW			(	Checke	d by:	:	JS
equi	pmer	it type a	and mo	xdel:					Pit Orientation:	Easting:	m				R.L.	Surface:
exca ex	vatio	n dimer ation	nsions: inforr	mation	ו long	m wic	le mate	erial s	ubstance	Northing:	m				datu	ium: AHD
	ation	Τ		notes			, p	ion	material				cy/ dex	ket etro-	er c	
poų	penetr	er		samples, tests, etc		- náh	phic lo	sificat		· · · · · · · · · · · · · · · · · · ·		sture dition	sistenc sity in		, per	structure and additional observations
met	12	s at	DID	10010, 11	RL	deptn metres	graf	clas syrr	soil type: plasticity or particit colour, secondary and mir	le characteristics, or components.	,	moi	con: den	100	300 400 8	
Ш							$\bigotimes$	2	FILL (Gravelly SAND): fine to me terracotta gravels	edium grained, cr	ushed	D				No ACM, staining or odours observed
					-			Ś								
				E+4.6ppm	л			Ś								
					-			, X								
								, X								
						-		SP	SAND: fine to medium grained, br	rown to grey, trac						
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met	thod		<u> </u>		pen	letration		<u> </u>	notes, samples, tests	nm diameter	classifica	ation syr	mbols an	ıd		consistency/density index
PT		push soild	tube stem fl	light auger		<u>آ</u>	- no re rangi	sistance ng to	U <sub>63</sub> undisturbed sample 50n D disturbed sample	nm diameter t	bill desc based or system	1 unified	classific	ation		S soft F firm
HS VT		hollov V Bit	<i>w</i> stem , T Bit	flight auge		<u></u>	⊢ retusa	ai	V vane shear (kPa) Bs bulk sample		moisture	,				St stiff     VSt very stiff
AH CP		air ha cable	mmer percus	ssive	wate	. <b>er</b> 10/1	1/98 wa	iter level	E environmental sample R refusal		D dry M mo	/ pist				H hard Fb friable
ND RC	D	nand non-c	auger Jestruci	tive digging		on d wat	late sho er inflov	own N		N	/v we Wp pla W liα	t stic limi uid limit	it			L loose
		100111	50101			wat	er outfle	wc			, T IId					D dense VD verv dense

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A TE				<b>7 y</b>								E	Excavat	tion N	<b>1</b> 0.	TP22
E	nç	jin	166	ring	L	og	- E	Exc	avation			5	Sheet	Ioh N	In ·	1 of 1 SVDEN205656
Clie	ent:			Merit	ton (	Grou	p						Date st	arted	:	16.5.2017
Prir	ncipa	al:					,					[	Date cc	omple	eted:	16.5.2017
Pro	ject:			Merit	ton I	Warri	iewo	od D	SI			L	_ogged	by:		LS
Tes	st pit	locat	ion:	2 Ma	cph	ersoi	n Str	eet, I	Warriewood, NSW			(	Checke	ed by:		JS
equi	pmer	nt type	and mo	xdel:					Pit Orientation:	Easting:	m				R.L.	Surface:
exca ex	vatio	n dime ation	insions:	mation	1 long	m wic	le mate	erial s	ubstance	Northing:	m				datu	m: AHD
	ation			notes			D <sub>D</sub>	tion	material				icy/ idex	ket etro-	er	
thod	penetr	ter		samples, tests, etc		denth	phic Ic	ssificat	coil type: plasticity or partic	la abaractoristica	_	isture	isisten rsity in	od b kP	a la	structure and additional observations
me	12	3	PIC		RL	metres	gra	cla; syn	colour, secondary and min	le characteristica lor components.	3,	cor	con der	50 <del>1</del> 0 50 <del>1</del> 0	300 5	
								×	FILL (Sandy GRAVEL):crusned ash	terracotta, with s	some	M				No ACM, staining or odours observed
					-			×								-
				E+6.6ppm	ו			×								
					-	-										
								×								_
								SP	SAND: fine to medium grained, br plasticity clay	rown to grey, tra	ice low					
																_
					-	0. <u>5</u>										
				E+6.7ppm	ו		·   ·	•								
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met	thod				pen	1.5 retration			notes, samples, tests	i	classific	ation sv	mbols an	 Id		consistency/density index
DT PT		diatu pusł	ibe i tube		1 2	234	— no re	sistance	$U_{50}$ undisturbed sample 50m $U_{63}$ undisturbed sample 63m	nm diameter nm diameter	soil desc based or	ription	classific	ation		VS very soft S soft
SS HS		soild hollo	stem fl	ight auger flight auger			rangir ⊢ refusa	ig to al	D disturbed sample V vane shear (kPa)		system				_	F firm St stiff
AH CP		V Br air h cabl	:, I Bit ammer e percu:	ssive	wat	ter			Bs bulk sample E environmental sample B refusal		D dr	y oist				VSt very stiff H hard Fb friable
HA ND	D	hand non-	l auger destruc	tive digging	₹	10/1 on d	/98 wat Jate sho	er level wn			W we Wp pla	et astic lim	it			VL very loose L loose
RC		rock	corer			wate wate	er inflow er outflα	v Sw			W <sub>L</sub> liq	uid limit				MD medium dense D dense VD verv dense

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A TE			ч с(		<b>' y</b>								E	Excavat	tion N	No.	7	<b>P23</b>		
E	nŗ	gi	n	<b>90</b>	ring	Ľ	og	- E	Exc	avation			5	Sheet	IOD N	No .	1 of S	1 VDEN	205656	
Clie	ent:				Merit	ton (	Grou	p						Date st	arted	1: 1:	1	6.5.20	17	
Prir	ncip	al:											[	Date cc	omple	eted	: 1	6.5.201	17	
Pro	ject	:			Merit	on I	Warr	iewo	od D	SI			L	_ogged	by:		L	.S		
Tes	st pit	loc	catic	n:	2 Ma	cph	erso	n Str	eet, I	Warriewood, NSW			(	Checke	d by:	:	J	IS		
equi	pme	nt ty	/pe a	nd mor	del:		mwi	40		Pit Orientation:	Easting:	m			-	R.L.	. Surfac	ie:		
ex	cav	atic	on i	nforr	nation	Tiong		mate	erial s	ubstance	inorthing.				_	Udiu	lin:		10	
	tration				notes			<u>bo</u>	ation	material			~ C	ncy/ index	cket	ater		stru	oturo and	
ethod	nene	2	ater	Q	samples, tests, etc		depth	aphic	assific; /mbol	soil type: plasticity or partic	le characteristics,		oisture	msiste ensity i	ස් kF	žĔ va		additional	l observation	าร
Ē Ш	12	3	š	₫	<u> </u>	RL	metres	жж Б	s c	colour, secondary and mir FILL (Sandy GRAVEL):crushed	nor components. terracotta, with sc	ome	Ĕ Х М	ខភ	200	400	No AC	CM, staining	a or odours ol	bserved
										ash	torrace,							,	J 0. 111.	
				l		1	-		*											_
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				l	E+7.2ppm				×											_
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				l					58	plasticity clay	rown to grey, trace	9 IOW								
				l		-														_
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met	thod	<u></u>			<u> </u>	per	1.5 netration	Ļ		notes, samples, tests	c	lassifica	ation syr	nbols an	l     id	Щ	cor	nsistency/d	ensity index	
PT SS		ai pi si	iatup ush t	e ube tem fl	ight auger	1 2	234	— no re rangi	sistance ng to	U <sub>50</sub> undisturbed sample burn U <sub>63</sub> undisturbed sample 63n D disturbed sample	nm diameter so nm diameter br	oil desc ased on	ription 1 unified	classific	ation		VS S F		very soft soft firm	
HS VT		hc V	ollow / Bit,	stem T Bit	flight auger			► refusa	al	V vane shear (kPa) Bs bulk sample	rr	noisture				_	St VS	it	stiff verv stiff	
AH CP		ai Ci	ir har able	nmer percus	sive	wat	ter 10/*	1/08 wa	tor lovel	E environmental sample R refusal	D N	) dry /1 mc	/ bist				H Fb	·	hard friable	
HA	D	ha nr	and a on-de	uger estruct	ive digging		on d	Jate sho	Jwn		N N	√ we Vp pla	t istic limi	ıt			VL L		very loose loose	
RC		го	JCK C	orer			wat	er outflo	Św		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	v <sub>L</sub> liqi	Jia limit					)	dense verv dense	se

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A TE	TRA	TEC	ЭНСС		y Y	-							E	Excava	tion N	ю.	TP24
Ε	nę	gi	n	<b>ee</b>	ring	L	og	- E	ixc	avation			9 (	Sheet Office .	lob N	io ·	1 of 1 SYDEN205656
Clie	ent:				Merit	ton	Grou	р					[	Date st	arted:	:	16.5.2017
Prir	ncipa	al:											[	Date co	mple	ted:	16.5.2017
Pro	ject:	:			Merit	ton	Warr	iewo	od D	SI			l	_ogged	by:		LS
Tes	st pit	loc	catic	n:	2 Ma	cph	erso	n Str	eet, I	Warriewood, NSW			(	Checke	ed by:		JS
equi	ipme	nt ty	/pe a	nd mo	idel:	1000		1-		Pit Orientation:	Easting	: m				R.L.	Surface:
exca ex	cav	on u ati	on i	sions. nforr	nation	1 IOI IY		be mate	erial s	ubstance	Norum	j: m				datu	m: AHD
	ration		Ī		notes			B	ation	materia	al			//JC/	sket netro-	iter	-4
ethod	nenet	2	ater		samples, tests, etc		depth	aphic I	assifice mbol	soil type: plasticity or part	icle characterist	ics.	oisture inditior	nsister nsity i	kP;	a a	structure and additional observations
ш	12	3	88	Ē		RL	metres	di.	sy	colour, secondary and m	ninor component	.s.	Ĕ S M	đ ố	30 <u>1</u> 0	400	No ACM staining or adours observed
									×				101				
							-										-
									×								
						1	-		, ,	FILL (Gravelly SAND): fine to n black, fine to coarse sub-angula	nedium grained r gravels, trace	, brown to ash					-
					E+9.7ppm	n	-		×								_
						$\frac{1}{2}$		××	SP	SAND: fine to medium grained,	brown to grey, t	race low					-
							0.5		:	plasticity clay							
						1	0.5										
					E+8.8pp11	1											_
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							1.5										
met DT	thod	d	liatub	e		per 1 :	netration 2 3 4	<u>.</u>		notes, samples, tests U <sub>50</sub> undisturbed sample 50	Jmm diameter	classific soil des	ation sy cription	mbols an	d		consistency/density index VS very soft
PT SS		p s	ush t oild s	ube tem fli	ight auger		5	<ul> <li>no res rangii</li> <li>refus</li> </ul>	sistance ng to al	U <sub>63</sub> undisturbed sample 63 D disturbed sample	3mm diameter	based o system	n unified	classific	ation		S soft F firm
VT AH	I	N V a	/ Bit, air ha	T Bit nmer	liight augei	wa	ter			Bs bulk sample E environmental sample		moisture D dr	y v				VSt very stiff H hard
CP HA		c h	able and a	percus auger	ssive	Ţ	10/1 - on c	1/98 wa date sho	ter level own	R refusal		M m W w	oist et				Fb friable VL very loose
ND RC	D	n ri	on-de ock c	estruct orer	ive digging.		- wate	er inflov	v			Wp pl W <sub>L</sub> lic	astic lim Juid limit	it			L loose MD medium dense
							wate	er outflo	w								VD very dense

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				<b>7 У</b>								Ē	Excava	tion I	No.	TP25
E	nç	in		ring		og	- E	Exc	avation			9	Sheet	'ah M		1 of 1
Clie	ent:			Merit	ton	Grou	a					 I	Date st	artec	4:	16.5.2017
Prir	ncipa	I:					•					ſ	Date co	omple	eted	d: <b>16.5.2017</b>
Pro	ject:			Merit	ton	Warr	iewo	od D	SI			I	_ogged	by:		LS
Tes	t pit	locati	on:	2 Ma	cph	erso	n Str	reet, I	Warriewood, NSW			(	Checke	ed by	<i>r</i> :	JS
equi	pmen	t type a	and mo	xdel:					Pit Orientation:	Eastin	ıg: m				R.L	Surface:
exca ex	ivatior	i dimer	nsions: inform	mation	1 long	m wid	de mate	erial s	ubstance	Northi	ng: m				dat	um: AHD
	ation			notes			D D	ioi	materia				cy/ dex	ket et	ero-	
thod	penetr	er		samples, tests, etc		donth	phic lo	sificat	sell brow plosticity or parti		-4:00	sture	sisten		net Dei Pa	structure and additional observations
met	12:	sat 6	ΔIΑ		RL	metres	gra	clas syn	soll type: plasucity or partic colour, secondary and mi	inor compone	stics, ints.	con	con den	100 200	300 <b>5</b> 400 <b>5</b>	
ш								ž	Crushed terracotta			М				No ACM, staining or odours observed
					-	-			FILL (Gravelly SAND): fine to m	iedium graine	ed, brown to					-
				E+7.4ppm	ו			ž	black, fine to coarse sub-angular	· gravels, trace	e ash					
					-	-		×								-
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									plasticity clay	//own to g,,	10001011					
					-	0. <u>5</u>		:								-
				E+6.7ppm	1	-										-
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met	hod		<u> </u>		per	1.5 netration	<u>ا</u>		notes, samples, tests		classific	ation sy	mbols an	d		consistency/density index
PT SS		diatul push soild	be tube stem fl	light auger		234	— no re rangi	sistance	U <sub>50</sub> undisturbed sample 500 U <sub>63</sub> undisturbed sample 630 D disturbed sample	mm diameter mm diameter	based or system	ription n unified	classific	ation		S very soft S soft F firm
HS VT		hollov V Bit	v stem T Bit	flight auge			<ul> <li>refus</li> </ul>	al	V vane shear (kPa) Bs bulk sample		moisture	•				- St stiff VSt very stiff
AH CP		air ha cable	mmer percus	ssive	wat	<b>ter</b> 10/*	1/98 wa	ter level	E environmental sample R refusal		D dry M m	y oist				H hard Fb friable
NDI RC	D	nand non-c	auger lestruci corer	tive digging		on c - wat	Jate sho er inflov	own w			Wp pla W, lin	et astic lim wid limit	it			L loose
		10010	0101			wat	er outflo	wc			11 I II					D dense

C		ſ	fc									_				
				<b>7 У</b>								-	Excavat	tion N	lo.	TP26
E	nç	lin	<b>ee</b>	ring	L	og	- E	Exc	avation			Ş	Sheet	Inh N	I	1 of 1 SVDEN205656
Clie	ent:			Merit	ton	Grou	p						Date st	arted:	0 :	16.5.2017
Prin	ncipa	I:					•					I	Date cc	omple	ted:	16.5.2017
Proj	ject:			Merit	ton	Warr	iewo	od D	SI			I	_ogged	by:		LS
Tes	t pit l	ocatio	on:	2 Ma	cph	erso	n Str	reet, l	Warriewood, NSW			(	Checke	ed by:		JS
equip	pmen	t type a	and mo	xdel:			40		Pit Orientation:	Eastine	g: m				R.L.	Surface:
exca	cava	tion	infori	mation	Tiong		mate	erial s	ubstance		ng. m				ບິ່ວເບ	M: AND
method	penetration	water	DIA	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material soil type: plasticity or particl	le characteris	stics, nts	moisture condition	consistency/ density index	00 A pocket	00 meter	structure and additional observations
ш	123	3 -					<u> </u>	*	Crushed terracotta		1.5.	M			3 <del>4</del>	No ACM, staining or odours observed
						_										_
				E+7.4ppm	n			×								
					-	-		* * *	Crushed terracotta with some br	rown fine to n	nedium					-
								×	grained sand							
						-		*								-
						_		× SP	SAND: fine to medium grained by	rown to grey	trace low					_
									plasticity clay	own to grey,	u ace iow					
					-	0. <u>5</u>		:								
				E+6 7ppg		_										_
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			+		+	1.0	<u></u>	-	Test pit TP26 terminated at 1m							
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met	hod				per	1.5 netration	<u> </u>		notes, samples, tests	<u> </u>	classific	ation sy	mbols an	 Id		consistency/density index
DT PT		diatul push	be tube stom fl	light auger	1 2	234	— no re rangi	sistance ng to	U <sub>50</sub> undisturbed sample 50m U <sub>63</sub> undisturbed sample 63m	nm diameter nm diameter	soil dese based o	cription n unified	classific	ation		VS very soft S soft E firm
HS VT		hollov V Bit	v stem , T Bit	flight auge	1	-	In refus	aľ	V vane shear (kPa) Bs bulk sample	ŀ	moisture				$\neg$	St stiff VSt very stiff
AH CP		air ha cable	mmer percu:	ssive	wat ▼	ter 10/1	1/98 wa	ter level.	E environmental sample R refusal		D dr M m	y oist et				H hard Fb friable
NDI RC	D	non-c rock	lestruct	tive digging		on o	ate sho er inflov	own v			Wp pl W <sub>L</sub> lic	astic lim quid limit	it			L loose MD medium dense
					-∢	wat	er outflo	w								D dense VD verv dense

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41			/∎   =⊂но		<b>, y</b>								E	Excavat	tion I	No.		<b>TP27</b>		
Ē	in	g	in	<b>ee</b>	ring	L	og	- E	Exc	avation			5	Sheet	Inh N	No.	1	of 1 SYDEN	1205656	
CI	ient	<u> </u>			Merit	ton	Grou	ip					<u> </u>	Date st	artec	d:		16.5.20	<u>200000</u> 17	
Pr	inci	pal:	:										[	Date cc	omple	etec	d:	16.5.20	17	
Pr	ojec	ct:			Merit	ton I	Warr	iewo	od D	SI			L	_ogged	by:			LS		
Τe	est p	oit Ic	ocatio	on:	2 Ma	cph	erso	n Str	·eet, I	Warriewood, NSW			(	Checke	ed by	r:		JS		
eq	uipm	ient	type a	and mo	del:					Pit Orientation:	Easting:	m				R.L	Sur	face:		
exc e	cavat xca	ion o vat	dimer	nsions: inforr	mation	1 long	m wic	de mate	erial s	ubstance	Northing:	m				dat	ium:	A	HD	
Γ		ation			notes			D <sub>D</sub>	tion	material				icy/ idex	ket	erro- ter	Τ			
thod		penetr	fer		samples, tests, etc		denth	phic Ic	ssificat	coil type: plasticity or partic	la characteristics		isture	isisten rsity in	kF	a D Pa Pa		stru additiona	cture and al observations	
me	1	23	wat	PIC		RL	metres	gra	clas syn	colour, secondary and min	le characteristics lor components.	i, 	con	con der	200	400 5		1014 stainin	-tabay	d
ш					T					Crushed terracotta with some br grained sand	rown fine to mea	ium	М				No	ACM, stainin	g or odours obse	erved
						-	_		, x				I							_
					E+8.6ppm	n			, X				I							
						-			×				I							_
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									SP	SAND: fine to medium grained, br plasticity clay	rown to grey, trac	ce low	I							-
							_						I							_
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						-	0. <u>5</u> _						I							
				E+7.5	ppm+QD0	3/QT0	13		•				I							
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	etho	 d				per	1.5 netration	<u> </u>		notes. samples, tests	i,	classific	ation sy	mbols an	 d		┢	consistency/c	density index	
D' P'	T T	-	diatut push	be tube		12	234	— no re	sistance	$U_{50}$ undisturbed sample 50m $U_{63}$ undisturbed sample 63m	nm diameter s nm diameter l	soil desc based or	ription n unified	classific	ation			VS S	very soft soft	
S H	S S	9	soild s hollov	stem fli	ight auger flight auge	л 📖		rangir refus:	ng to al	D disturbed sample V vane shear (kPa)		system					-	F St	firm stiff	
A	I H P		V Bit, air ha	I Bit mmer	ssive	wat	ter			Bs bulk sample E environmental sample B refusal	ŗ	D dry	y nist					VSt H Fb	very stiff hard friable	
H. N	A .DD		hand non-c	auger destruc	tive digging		10/1 on c	J/98 wat date sho	ter level own			W we Wp pla	et estic limi	it				VL L	very loose loose	
R	С	1	rock c	:orer			wate wat	er inflow	v ow		Y	W <sub>L</sub> liq	uid limit					MD D	medium dense dense	

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AT			FCH G		<b>y</b>								E	Excavat	ion M	No.	7	P28		
E	n	Ig	jin	<b>ee</b>	ring	j Le	og	- E	ixc	avation			5	Sheet	Iob 1	<u>ام:</u>	1 of <b>S</b>	1 YDEN	1205656	
Cl	ien	t:			Merit	ton (	Grou	p						Date sta	artec	1: 1:	1	6.5.20	17	
Pr	inci	ipal	:										0	Date cc	mple	eted	l: <b>1</b>	6.5.20 <sup>-</sup>	17	
Pr	oje	ct:			Merit	ton I	Warr	iewo	od D	SI			L	.ogged	by:		L	S		
Te	est p	pit l	ocatio	on:	2 Ma	cph	erso	n Str	eet, I	Warriewood, NSW			(	Checke	d by	:	J	S		
equ	uipn	nent	type a	and mo	idel:			-1=		Pit Orientation:	Easting:	m			-	R.L.	Surface	e:		
<b>e</b> 2	XC	ava	tion	infori	mation	Tiong		mate	erial s	ubstance	NOLUTING.					Uau	urn.		HU	
		ration			notes			bo	ation	material				ncy/ ndex	cket	ster		etru	turo and	
ethod		penet	ater		samples, tests, etc	;	depth	aphic I	assifice	soil type: plasticity or particle	e characteristics	s,	oisture inditior	insister ensity i	Ř.	žĔ Pa		additiona	al observation	S
ĔШ		23	š		+	RL	metres	Б XXX	sy cl	colour, secondary and min	or components.	lium	Ĕ S M	<u>ප</u> ප	200 2010	400	No AC	M. stainin	na or odours ob	served
									×	grained sand	0WIT III 0 10 1.1.2 -							NVI, Otd	19 01 0000.0 C.	301700
						-														_
					E+3.4ppm	ו														
						-	-													_
								<u></u>	. SP	SAND: fine to medium grained, brophasticity clay	own to grey, trac	ce low								_
							_													_
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					E+4.1ppm	n														
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	ethc	Jd	-liotuí	· _		per	1.5 netration	ļ	<u> </u>	notes, samples, tests	· -!:	classific	ation syr	nbols an	.d	<u> </u>	cor	nsistency/c	density index	
P S	T C		diatur push	tube	light suger		234	- no re rangi	sistance na to	U <sub>50</sub> undisturbed sample born U <sub>63</sub> undisturbed sample 63m	im diameter	based or	ription 1 unified	classific	ation		VS S F		very soft soft	
H: V	S T		hollov V Bit	N stem	flight auge	r 📖		⊢ refusa	al	V vane shear (kPa) Rs bulk sample		moisture					St VS	t	stiff verv stiff	
AI C	н Р		air ha cable	mmer percu	ssive	wat	ter 10//			E environmental sample R refusal	i	D dry M m	/ oist				H Fb	L	hard friable	
H/ N	A DD		hand non-c	auger Jestruc	tive digging	. ₹	on d	Jate sho	JWN			W we Wp pla	et astic limi	ıt			VL L		very loose loose	
R	С		rock c	:orer			wate	er outfle	, w			W <sub>L</sub> liq	uid limit			ľ	MD D VD	) I	medium dens dense verv dense	,e

ſ	~	<b>f</b>	fc	<b>37</b> 7	2							_				
				<b>; y</b>								E	Excava	tion 1	No.	<b>TP29</b>
E	n	ain	<b>ee</b>	ring	L	og	- E	Exc	avation			5	Sheet	'- <b>6</b> N	•- •	1 of 1
Cli	ient:			Meri	ton	Grou	<u></u>						Date st	vi dot arted	lo.: I·	29.11.2017
Pri	incipa	al:				••••	۴					[	Date co	omple	eted	29.11.2017
Pro	niect			DSI.	2 M	lacok	ersc	on Sti	reet. Warriewood, N	sw		L	oagec	h bv:		JS
Те	st pit	locati	ion:	Refe	r Fi	a 2	••••		· • • • • • • • • • • • • • • • • • • •			(	Checke	ed by:		JS
equ	uipme	nt type	and m	iodel:		5			Pit Orientation:	Eastin	g: m				R.L.	Surface:
exc	avatio	on dime	ension	s: n	1 long	j m w	ide		• •	Northir	ng: m				datu	m: AHD
e	icava j		nform		$\square$		mate	riai su	ubstance				×	÷ 5		
g	netrati			notes samples,	,		ic log	ficatio	materia	31		ure tion	stency ty inde	pocke	meter	structure and
methc	be	water	DIA	tests, etc	RL	depth metres	graphi	classi <sup>f</sup> symbr	soil type: plasticity or part	icle characteri	stics,	moistu condit	consis densit	kPa 888	a R R	additional observations
ш	12	3 -	<u> </u>	+	+		4 4		CONCRETE 100mm thick		11.0.			3 5 1	9.4	Slight hydrocarbon odour, no ACM
								2								or staining
				E	1	-	Ŵ		FILL: Clayey SAND, grey/brov	wn, fine to med	Jium naular,	ĺ				-
			(F	ID=1.3pp	m)				small to medium gravels, crus ash/asphalt.	hed concrete,	,					
					1											-
						-										
																No odour, staining or ACIVI observed
						-										-
								•								
					-	0. <u>5</u>										-
			) (f	E PID=2.4pp	ı <b>m</b> )											
					-	-										-
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					1	-	ſ.		Clayey SAND, brown/grey, fin low plasticity, trace wood.	e to meidum g	rained,					No odour, staining observed
				E		_	[									-
			(F	ID=2.9pp	m)		/									
			<u> </u>	<u> </u>	<u> </u>	1.0										
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						<u>1.5</u>										
me DT	ethod	diatub	be	<u>.</u>	per 1	netration 2 3 4			notes, samples, tests U <sub>50</sub> undisturbed sample 50r	mm diameter	classific soil dese	ation syn	mbols an	d		consistency/density index VS very soft
PT SS	3	push t soild s	.ube stem fliç	jht auger			<ul> <li>no re- rangi</li> <li>refus</li> </ul>	sistance ng to al	U <sub>63</sub> undisturbed sample 63r D disturbed sample	nm diameter	based or system	n unified o	classificat	tion		S soft F firm
HS 80 1V 80 80	3 Г	hollow V Bit,	r stem fl T Bit	ight auger.			. 101000		V vane shear (kPa) Bs bulk sample	ŀ	moisture	•				St stiff VSt very stiff
	1 > ^	air ha cable	nmer percus	sive	wat	ter 10/'	1/98 wat	er level	E environmental sample R refusal		D dr M m	y oist				H hard Fb friable
	D C	non-d	estructi orer	ve digging		· on d - wat	iate sho er inflow	wn			Wp pla W, lig	astic limit	1			L loose MD medium dense
mo					-	wat	er outflo	w			., <sup>r</sup> "d					D dense VD very dense

(		5	H	fo	N/ 7	2							_			
					<b>' y</b>	•							E	Excava	tion No.	<b>TP30</b>
,	E	ng	in	8 <b>8</b>	ring	I L	og	- E	Exc	avation			ç	Sheet	' No	1 of 1
(	Clie	nt:			Meri	ton	Grou							Date st	arted:	29.11.2017
F	Prin	cipal					0.00	٣					-	Date co	omolete	d. <b>29.11.2017</b>
F	Proi	ect.			DSI.	2 M	lacoh	ersc	n St	reet Warriewood.	NSW		1	onder	hv	
T	Tes	t nit k	ncati	on.	Refe	r Fj	a 2	0.00		ooy mannen ee,			(	Checke	nd hv	.19
e	əquir	oment	type	and m	odel:		<u> </u>			Pit Orientation:	Eastir	ng: m		51100.1.2	R.L	Surface:
e	exca	vation	dime	nsions	<u>s: n</u>	n long	j m w	ide			North	ing: m			dat	um: AHD
┢	exc	avati	on ir	1form	ation	<del></del>		mate	irial sι	ubstance			<u> </u>	×	6	1
	-	etratic			notes			c log	Ication	mat	terial		e n	iency/ / inde:	ocket enetre neter	structure and
;	lethoc	ben	vater	ē	tests, etc		depth	raphic	lassifi ymbo	soil type: plasticity or	particle character	ristics,	onditi <sup>-</sup>	onsist iensit)	kPa	additional observations
H	<u>ا</u> غ	123	3		<u> </u>	RL	metres		ν <u>Γ</u> γ	FILL: Clayey SAND, yellov	nd minor compon w/brown, fine to n	ents. nedium	Εo	σΰ	100 30C 40C	No odour, staining or ACM
					L+ QD101 and		_			grained, crushed sandstor	ne blocks,					observed
				(F	QT101 ID=3.7pp	om)										
						1	-	×		Sandy CLAY, grey to blac	k, medium plasiti	cty, fine to				-
							-	$\bigotimes$	×	sub-angular medium to lar	rge gravels.	diiu				-
									×							
									×							_
					E	-	0. <u>5</u>									-
				(P	ID=4.8pp	/m)	-	×								-
							-									-
							-	<b>₩</b>		Clayey SAND, brown/grey	, fine to medium	grained,	ł			Slight sulfur odour
							-	/		low plasticity.						_
							10	/								
							1.0	(	:							-
						-	-	( <i>)</i>	2							-
					E_		_	V ,								_
				(P	ID=3.7pp	m)										
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							1.5		;						Í     <u>   </u>	
ſ										Test pit TP30 terminated a	at 1.5m					
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L						<u> </u>	2.0					<u> </u>				
	DT	iod (	diatubr	9		per 1	netration	1		notes, samples, tests U <sub>50</sub> undisturbed sample	e 50mm diameter	classifica soil desc	ation syn cription	mbols an	d	consistency/density index VS very soft
ev.2	Pi SS HS	ł ?	ousn w soild si	ibe tem flig <sup>i</sup> stem fl	ht auger		5,	<ul> <li>no res rangii</li> <li>refus</li> </ul>	sistance ng to al	D disturbed sample	e 63mm diameter	based on system	i unifiea	classifica	.ion	S sott F firm St stiff
Je 3 R	VT AH	1	√ Bit, 7 air har	i Bit nmer	gni augei	wa	ter			Bs bulk sample E environmental sam	nple	moisture D dr	) V			VSt very stiff H hard
.2 Issu	CP HA	(	cable r hand a	)ercuss auger	ive	V	10/1	1/98 wat	er level	R refusal	pic .	M mo W we	oist et			Fb friable VL very loose
GEO 5	NDD RC	) <b>r</b> )	non-de rock cr	structiv	/e digging		- wate	er inflow	/			Wp pla W <sub>L</sub> liq	astic limit uid limit	t		L loose MD medium dense
Form						-◀	wate	ər outflo <sup>,</sup>	w							D dense VD very dense

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				<b>, y</b>								E	Excava	ition N	٩o.	TP31	
E	.ng	jin	<b>20</b>	ring	I L	.og	- E	Exc	avation			ę	Sheet	lah N	1	1 of 1	:
Cliv	ent:			Merit	ton	Groi							Date st	arted	0 :	29.11.2017	
Pri	ncipa	d:										[	Date co	omple	eted:	29.11.2017	
Prc	oject:			DSI,	2 N	lacph	ersc	on Sti	reet, Warriewood, NS	SW		l	_ogged	l by:		JS	
Te	st pit	locatio	on:	Refe	r Fi	g 2						(	Checke	ed by:		JS	
equ	ipmer	it type a	and m	iodel:					Pit Orientation:	Eastir	ıg: m			F	R.L. \$	Surface:	
exc ex	avatio	n dime	nsions	s: m	n long	រ m w	ide mate	arial si	ubstance	North	ing: m			<u> </u>	datun	n: AHD	
F	ation						5	LO	matoria				dex /	et etro-	ř		
po	enetra		1	samples,	,		hic lo	sificati bol	materia	al.		ture	istenc sity inc	pene	mete	structure and additional observati	ions
meth	<u>م</u> 12:	wate	DID	tests, etc	RL	depth metres	grap	clast symi	soil type: plasticity or parti colour, secondary and m	icle character ninor compon	ristics, ents.	mois conc	cons dens	K⊬a 00,0000000000000000000000000000000000	<b>1</b>		
ш					1				CONCRETE 100mm thick							No odour, staining or ACM observed	1
			1			_	A. A. A. A	1	L								
				E	]			*	FILL: Sandy CLAY, brown/gre plasiticty, fine to medium grain	y, medium to red sand, with	low 1 some						
			()	ID=3.5pp	m) 	-		×	sub-angular small to mealuring	gravels, trace	e ash.						
			l					*									
			l l			-											
			l														
			l			-		•									
			l			0.5		•									
			l l		1	0.5			Clayey Sand, fbrown/dark brown	wn, fine to me	edium — —						_
			l l	E E			/ _										
			(F	ID=3.9pp	m)		/										
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me DT	thod	diatubr	e	1	<b>pe</b>	netration 2 3 4		·	notes, samples, tests U <sub>so</sub> undisturbed sample 50r	nm diameter	classific soil desr	ation syr	mbols an	d	╧╋	consistency/density index VS very soft	x
PT SS	;	push tu soild si	, .ibe tem fliç	jht auger		5.	- no res rangii	sistance ng to	U <sub>63</sub> undisturbed sample 63n D disturbed sample	nm diameter	based or system	n unified o	classificat	tion		S soft F firm	
HS VT		hollow V Bit, 1	stem fl ΓBit	ight auger.	2000			1	V vane shear (kPa) Bs bulk sample		moisture	Ð			$\neg$	St stiff VSt very stiff	
AH	•	air han cable p	imer percus:	sive	wa	iter 10/	1/98 wat	er level	E environmental sample R refusal		D dry M m	y oist				H hard Fb friable	
	D	nand a non-de	uger struction	ve digging		- on d - wat	iate shover inflow	wn			Wp pla W lig	et astic limit wid limit	:			L loose	anse
		TOOR OC			-	wat	er outflo <sup>,</sup>	w			WL IIG					D dense VD very dense	;

ſ	<b>`</b>	<b>H</b>	fc	<b>N</b> /	7	•						_				
A TE		<b>D</b>		<b>7 y</b>								Ē	Excava	ition	No.	<b>TP32</b>
E	nç	Jin	<b>ee</b>	ring	j L	og	- E	Exc	avation			9	Sheet	loh I	No ·	1 of 1 SVDEN205656
Clie	ent:			Meri	ton	Groı	Ip						Date st	tarter	d:	29.11.2017
Prir	ncipa	d:					-					[	Date c	ompl	etec	i: <b>29.11.2017</b>
Prc	oject:			DSI,	2 M	lacph	iersc	on Sti	reet, Warriewood, N	SW		l	Logger	d by:		JS
Tes	st pit	locati	on:	Refe	r Fi	g 2						(	Checke	ed by	y:	JS
equ	ipmer	it type	and m	10del:					Pit Orientation:	Eastinç	g: m				R.L.	Surface:
exca ex	avatio cava	n dime	nsion nforr	s: n nation	n long	j m wi	ide mate	erial s	ubstance	Northin	וg: m			—	datu	IM: AHD
	ation			notes			D D	tion	materi	ial			cy/ dex	ket ^tro_	er	
poų	benetr	er		samples,	,		phic lo	sificat				sture dition	sisten sity in	Dod	met	structure and additional observations
met	12:	s sat	DIG	10010, 012	RL	depth metres	graf	clas syrr	soil type: plasticity or par colour, secondary and r	ticle characters minor compone	stics, nts.	uoi con	con	100	300 400 <b>D</b>	
Ш		$\square$						X	FILL: Sandy GRAVEL, brown grained, gravels are small to	i, fine to mediur large, sub-angu	m ular, with				$\prod$	No odour, staining or ACM observed
				E_	-			ł		Crusneu lenau	otta.					
			(F	PID=2.7pp	/m)	-		Ś								
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	$\left\{ \left  \right  \right\}$							Ż								
	$\left\{ \left  \right  \right\}$					_		Ś								
	$\left\{ \left  \right  \right\}$			<b></b>	-	0. <u>5</u>		Ż								-
	$\left\{ \left  \right  \right\}$		()	E PID=2.7pp	տո)			, X								
	$\left\{ \left  \right  \right\}$				1			, k								
	$\left\{ \left  \right  \right\}$						×××	<u> </u>	SAND, brown, fine to mediun	n grained, trace	; low					
	$\left\{ \left  \right  \right\}$					-			plasticity clay, some peat							
	$\left\{ \left  \right  \right\}$															
	$\left\{ \left  \right  \right\}$				1											
	$\left\{ \left  \right  \right\}$		0	E PID=2.0pp	տր)	1. <u>0</u>										-
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				1	$\uparrow$		ļ i	1	Test pit TP32 terminated at 1	.2m						
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DT	thod	diatub	e		per 1	netration 2 3 4	i -		notes, samples, tests U <sub>50</sub> undisturbed sample 50	)mm diameter	classifica soil desc	ation syn	mbols an	d		Consistency/density index
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## **Appendix D - Clearance Certificate**

Coffey SYDEN205656-R05 19 July 2019



PO Box 457 Turramurra NSW 2074

ABN: 69 041 751 671

PH: 0437 251 358 Email: philclifton@bigpond.com

19 January 2018

Ms Nicole Maroun Earthworx PO Box 7815 Baulkham Hills NSW 2153

#### RE: VISUAL ASBESTOS REMOVAL CLEARANCE CERTIFICATION THREE EXCAVATION AREAS AT 2 MACPHERSON STREET, WARRIEWOOD NSW

Dear Sir,

We refer to the visual inspection undertaken on Friday 19 January 2018 following the excavation and removal of soil containing asbestos contamination from three nominated locations within the Meriton development site at 2 Macpherson Street, Warriewood NSW.

The three locations from with the soil was excavated and removed from the site were those locations identified in the contamination assessment of the site completed by Coffey in October 2017 ref: 754-SYDEN205656\_R02. These areas are located in the north-west area, centre south area and southeast area. A site plan showing these locations is attached.

This inspection, which was of a visual nature only, was carried out in accordance with the Section 3.10 of the How to Safely Remove Asbestos Code of Practice issued by Safe Work Australia and Clause 473 of the NSW Work Health and Safety Regulation 2017. This clearance certificate has been compiled in accordance with the requirements of Clause 474 of the NSW Work Health and Safety Regulation 2017.

This visual inspection undertaken on 19 January 2018 was carried out by completing a systematic walkover of the exposed ground surface and surrounding ground surface at each of the three nominated locations.

This visual inspection found the exposed surface soil in each of the three nominated areas from which the asbestos contaminated soil had been excavated to be free of visible asbestos containing materials such as fragments of asbestos cement. See attached photographs.

Monitoring for airborne asbestos fibres was undertaken in conjunction with the asbestos contaminated soil removal work on 30 November 2017. This monitoring returned a result of less than 0.01 fibres per millilitre of air (<0.01 fibres/ml) which is below the lowest detectable level using the membrane filter method [NOHSC:3003(2005)].

The National Occupational Health and Safety Commission recommended maximum exposure level for airborne asbestos fibres is 0.1 fibres per millilitre of air (as an 8-hour time weighted average).



Page 2 of 2 19 January 2018

A copy of the airborne asbestos fibre monitoring report is attached.

Based on the findings of the visual inspection which found the remaining exposed soil in each of three excavation areas to be free of visible asbestos contamination and the results of the airborne asbestos fibre monitoring which returned results below the lowest detectable level for the estimation of airborne asbestos fibres, we confirm that the removal of asbestos contaminated soil from the three nominated locations within the Meriton development site at 2 Macpherson Street, Warriewood NSW has been satisfactorily completed and these areas of the site may be accessed for construction work without the use of asbestos personal protective equipment (PPE).

In the event that during future excavation work at the site (or other soil disturbance such as strong wind or heavy rain) some asbestos containing materials such as fragments of asbestos cement become exposed, these pieces should be collected and disposed of as asbestos waste in accordance with the requirements of SafeWork NSW and the NSW Environment Protection Authority (NSW EPA).

If you require any further information, please contact me on 0437 251 358.

Yours faithfully P. CLIFTON & ASSOCIATES PTY LTD

Philip Clifton Principal BOHS IP402 Certified SafeWork NSW Licenced Asbestos Assessor: LAA000119

Attachments: Site Plan, Photographs, Airborne Asbestos Fibre Monitoring Report



SITE PLAN

PCA5644-2017\_CLRLET01\_19Jan18







PHOTOGRAPHS



19 January 2018



Photograph No. 1: North- west excavation area at 2 Macpherson Street, Warriewood NSW on 19 January 2018



Photograph No. 2: Centre south excavtion area at 2 Macpherson Street, Warriewood NSW on 19 January 2018



19 January 2018



Photograph No. 3: South-east excavation area at 2 Macpherson Street, Warriewood NSW on 19 January 2018



AIRBORNE ASBESTOS FIBRE MONITORING REPORT



PO Box 457 Turramurra NSW 2074

ABN: 69 041 751 671

PH: 0437 251 358 Email: philclifton@bigpond.com

4 December 2017

Ms Nicole Maroun Earthworx PO Box 7815 Baulkham Hills NSW 2153

# RE: RESULTS OF AIRBORNE ASBESTOS FIBRE MONITORING 2 MACPHERSON STREET, WARRIEWOOD NSW

Dear Sir,

We refer to your request to undertake monitoring for airborne asbestos fibres on Thursday 30 November 2017 during the removal of soil containing asbestos contamination from the Meriton development site at 2 Macpherson Street, Warriewood NSW.

This monitoring was carried out in accordance the requirements of the Safe Work Australia How to Safely Remove Asbestos Code of Practice, Section 3.11 and the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres' 2<sup>nd</sup> edition [NOHSC 3003:2005].

The results of the monitoring are as follows:

Sample No.	Location	Time On	Time Off	Fibre Count	Airborne Fibre
				fibres/fields	Concentration
					(fibres/ml)
PCA 5644 -	North west	07:00	15:00	0.0/100	<0.01
2017/A10/1	excavation area				
PCA 5644 -	Centre south	07:02	15:02	2.0/100	<0.01
2017/B50/2	excavation area				
PCA 5644 -	South east	07:04	15:04	3.0/100	<0.01
2017/B77/3	excavation area				

The above result is below the lowest detectable level for the estimation of airborne asbestos fibres using the membrane filter method and below the NOHSC recommended exposure level for airborne asbestos fibres (8 hour TWA) of 0.1 fibres/ml.

This result indicates that there was no measurable human health risk from airborne asbestos fibres in these areas during the monitoring period.

The NATA endorsed laboratory report is attached.



Page 2 of 2 4 December 2017

If you require any further information, please contact me on 0437 251 358.

#### Yours faithfully P. CLIFTON & ASSOCIATES PTY LTD

P. Clifter.

Philip Clifton Principal

Attachment: Laboratory Report



LABORATORY REPORT

PCA5644-2017\_AMLET01\_30Nov17



A division of Enviro-Net Australia Pty. Ltd. ABN 39 067 499 389 ACN 067 499 389 NATA Reg. 3110 www.environet.com.au Email: esp@esplabs.com.au

> Melbourne Laboratory (Head Office) Unit 2/2B Parker Street Footscray, Victoria 3011 Ph: (03) 9688 8000

#### **CERTIFICATE OF AIR MONITORING**

Date:	4 December 2017	
ESP Job Number	: J37628	
Customer:	P. Clifton & Associates Pty Ltd	
Address:	PO Box 457, Turramurra NSW, 2074	
Attention:	Phil Clifton	
Sampled From:	As received (Your ref: PCA 5644-2017)	
Sampled By:	As received	
Date Received:	4 December 2017	
Test Method:	Filters examined in accordance with Guidance Note on the Membra Airborne Asbestos Fibres 2 <sup>nd</sup> Edition [NOHSC:3003(2005)] using ESP	ne Filter Method for Estimating in-house Method No. 1.
ESP Lab No.	Customer Sample Reference	Result (fibres/field)
53935 53936 53937	A10/1 B50/2 B77/3	Nil/ 100 2/ 100 3/ 100

The results contained in this report relate only to the sample(s) submitted for testing. ESP Environmental & Safety Professionals accepts no responsibility for the representivity of the sample(s) submitted

Mathew Cupic Approved Counter / Approved Signatory



NATA Accredited Laboratory Number: 3110 Accredited for compliance with ISO/IEC-17025 - Testing Site Number: 3103 R\_171204\_J37628\_P. Clifton & Associates Pty Ltd\_PCA 5644-2017\_Airmon\_F1 Page 1 of 1

## Appendix E - Waste Disposal Weighbridge Dockets



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SUEZ Recycling & Recovery Pty Ltd

Elizabeth Drive Waste Management Centre 1725 Elizabeth Drive Kemps Creek NSW 2178

Phone: 1300 651 116 ABN: 70 002 902 650

Delivery Docket

Ticket No: ED310435201.0 29/11/2017 1:56:39 PM 29/11/2017 2:16:00 PM Time In: Time Out: Vehicle Rego: EWX030 701122 - EARTHWORX AUSTRALIA PTY LTD H282 WARRIEWOOD Cust ref: Contaminated Asbestos Soil - 8032 32,80t@ Source: External Dest: Elizabeth Drive General Waste GROSS 49.46t 16.66t 32.80t TARE NET Weight: Chargeable Weight: 32.80t Each Item Weight: 0.00t Total (ex GST): GST : Total Price: ----- Payment Details------Temporary Acc: Total Price: Total Amount Tendered: Change Given: Operator: WECOW

### Appendix F - Laboratory Analysis Test Certificates & Chain of Custody Documentation

*Container Type & Preservation Codes: P - Plast	Company: Time:	Name: Date:	Coffey Environments Time:	RELINQUISHED BY	0.1-8.0-brd	TPO4_VIA	104-V2	IN-hod-NI	to21.vf	1721-V2	TPEL-VI	11/12-V4	TP13-V3	TP13-V2	TPIZ VI	Lab No. Sample ID	Relevant agreements: Eurofins COF_ENAUABTF00955	Special Instructions:	Sampler's Name: J. SIXSMUT	Project Name: Mp/ 1/00/ Wav/ UWW	Project No:CY NE NONSACA	coffey >
tic, G- Glass Bottle, J - Glass Jar, V- Vial, Z - Ziplock Bag,	Company:	✓ Name:	Company:			V								, 10r	7000 anion Sail	Date Time (Soil etc)	2AA_MSA1; ALS COF_ENAUABTF00952AA_MSA2 and SGS (		Project Manager:	Collaboratory: EWONVS	Task NO. 110111110	Consigning Office: Charles WC Report Results to: JESSIC.SI
N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved,	Time: **	Date:	Frence Date: 30/11 Image Time: 5.20 p-	RECEIVED BY	Jus /										X X X WILL	Preservative* (concritic)	COF_ENAUABTF00952AA_MSA3		A STR			xsmith Caffey Cotomer
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GOW/	2 Company	PRINT Name:	ING (02) 97 Coffey Er	755 3545 Nomo				1															Lab No.	Relevant	Special I	Sampler	Project	Project	Γ	20	
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Melbourne Melbourne 3-5 Kingston Town Close Oakleigh Vic 3166 Phone : +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271

Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217

Brishane Brisbane 1/21 Smallwood Place Murarrie QLD 4172 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

web : www.eurofins.com.au

e.mail : EnviroSales@eurofins.com

### Sample Receipt Advice

Company name:	Coffey Geotechnics Pty Ltd Chatswood
Contact name:	Jessie Sixsmith
Project name:	MERITON WARRIEWOOD
Project ID:	SYDEN205656
COC number:	8067,8068,8069
Turn around time:	5 Day
Date/Time received:	Nov 30, 2017 5:20 PM

575489

### Sample information

Eurofins | mgt reference:

- A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- $\checkmark$ Sample Temperature of a random sample selected from the batch as recorded by Eurofins | mgt Sample Receipt : 12 degrees Celsius.
- 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.
- $\mathbf{V}$ Appropriate sample containers have been used.
- Sample containers for volatile analysis received with zero headspace.
- Split sample sent to requested external lab.
- $\times$ 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:

Nibha Vaidya on Phone : +61 (2) 9900 8400 or by e.mail: NibhaVaidya@eurofins.com

Results will be delivered electronically via e.mail to Jessie Sixsmith - Jess.Sixsmith@coffey.com.

Note: A copy of these results will also be delivered to the general Coffey Geotechnics Pty Ltd Chatswood email address.



NATA Accreditation Stack Emission Sampling & Analysis Trade Waste Sampling & Analysis Groundwater Sampling & Analysis



38 Years of Environmental Analysis & Experience

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			l mgt		ABN– 50 005 0 e.mail : Enviros	)85 521 Sales@	eurofins	.com	P	hone : -	+61 3 85 1261	66 564 5000	16 Mars Koad         Murarrie QLD 4172         Kewdale WA 6105           000         Lane Cove West NSW 2066         Phone : +61 7 3902 4600         Phone : 48 9251 9600           Phone : +61 2 9900 8400         NATA # 1261 Site # 20794         NATA # 1261	
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Pro	oject ID:	SYDEN2056	56										Eurofins   mgt Analytical Services Manager : Nibha Vaidya	
Sample Detail							HOLD	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH		1
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Sydr	ney Laboratory	- NATA Site # 1	8217			X							_	
Bris	bane Laborator	y - NATA Site #	20794										_	
Perti	n Laboratory - N	NATA Site # 237	30											
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1	TP13 \/1	Nov 29, 2017	Time	Soil	M17-De02406	×							-	
2	TP13 \/2	Nov 29, 2017		Soil	M17-De02400	x							-	
3	TP13_V3	Nov 29, 2017		Soil	M17-De02408	x								
4	TP13 V4	Nov 29, 2017		Soil	M17-De02409	x							-	
5	TP13 V5	Nov 29, 2017		Soil	M17-De02410	x								
6	TP21 V1	Nov 29, 2017		Soil	M17-De02411	X								
7	TP21 V2	Nov 29. 2017		Soil	M17-De02412	х								
8	 TP21_V3	Nov 29, 2017		Soil	M17-De02413	х								
9	 TP21_V4	Nov 29, 2017		Soil	M17-De02414	Х								

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Company Name:       Coffey Geotechnics Pty Ltd Chatswood         Address:       Level 18, Tower B, Citadel Tower 799 Pacific Highway         Chatswood       NSW 2067         Braiset Name:       MERITON WARRUNGOD								der N port # one: x:	o.: ŧ:	5 + +	75489 61 2 9 61 2 9	9406 10 9406 10	00 02		Received: Due: Priority: Contact Name:	Nov 30, 2017 5:20 PM Dec 7, 2017 5 Day Jessie Sixsmith	Λ
Project Name:MERITON WARRIEWOODProject ID:SYDEN205656													E	Eurofin	s   mgt Analytical Se	rvices Manager : Nibł	na Vaidya
Sample Detail								Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH					
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10	TP21_V5	Nov 29, 2017		Soil	M17-De02415	Х											
11	TP04_V1	Nov 29, 2017		Soil	M17-De02416	X											
12	TP04_V2	Nov 29, 2017		Soil	M17-De02417	X											
13	TP04_V3	Nov 29, 2017		Soil	M17-De02418	X											
14	TP04_V4	Nov 29, 2017		Soil	M17-De02419	X											
15	1P04_V5	Nov 29, 2017		Soil	M17-De02420	X											
16	1P29_0.1-0.2	Nov 29, 2017		Soil	M17-De02421	X		X	Х	X	X						
17	1P29_0.8-1.0	Nov 29, 2017		Soil	M17-De02422					X	X						
18	1P30_0.0-0.2	Nov 29, 2017		Soil	M17-De02423	X		X	X	X	X						
19	1P30_0.5-0.6	Nov 29, 2017		Soil	M17-De02424	X		X	Х	X	X						
20	QB101	Nov 29, 2017		Soil	M17-De02425					X	X						
21	QR101	Nov 29, 2017		Water	M17-De02426						Х						

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Company Address:	Order way Repor Phone Fax:					75489 61 2 9 61 2 9	) 9406 10 9406 10	2		Received: Due: Priority: Contact Name:	Nov 30, 2017 5:20 Dec 7, 2017 5 Day Jessie Sixsmith	PM					
Project Na Project ID								E	Eurofin	s   mgt Analytical Se	rvices Manager : N	ibha Vaidya					
	Asbestos - AS4964	НОГД	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH										
Melbourne	Laborato	ry - NATA Site	# 1254 & 1427	'1			Х	Х	Х	х	Х	Х					
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22 TP32_	_0.1-0.2	Nov 29, 2017		Soil	M17-De02427	X		X	X	X	X						
23 TP32_	_0.5-0.6	Nov 29, 2017		Soil	M17-De02428	X		X	X	X	X						
24 TP31_	0.1-0.2	Nov 29, 2017	;		M17-De02429	X		X	Х	X	X						
25 IP31_	1.0-1.1	Nov 29, 2017			M17-De02430	~			v	×							
20 11233_	0.1-0.2	Nov 29, 2017				×			X	×							
2/ TP33_	<u>_U.5-U.6</u>	Nov 29, 2017			N17 De02432	×			X								
20 TD34	<u>_2.3-2.4</u>	Nov 29, 2017				~			×								
29 1P34_	0.2-0.3	Nov 29, 2017			N17 De02434				×								
30 1P34_	0.5-0.7	Nov 29, 2017				^	v	^	^	^							
22 TD20	1112	Nov 29, 2017		Soil	M17 De02430		×										
33 TP32	0.9-1.1	Nov 29, 2017		Soil	M17-De02437		X										
33 TP32_	_0.9-1.1	Nov 29, 2017	:	Soil	M17-De02438		Х										

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Securofins mgt ABN- 50 005 086 e.mail : EnviroSa web : www.eurofi								s.com	N 2 P N S	<b>felbourn</b> -5 Kings Dakleigh Phone : + IATA # 1 Site # 12	e ton Tow VIC 316 -61 3 85 I261 54 & 142	vn Close 66 64 5000 271	Sydney         Brisbane         Perth           ose         Unit F3, Building F         1/21 Smallwood Place         2/91 Leach Highway           16 Mars Road         Murarrie QLD 4172         Kewdale WA 6105           000         Lane Cove West NSW 2066         Phone : +61 7 3902 4600         Phone : +61 9251 9600           Phone : +61 2 9900 8400         NATA # 1261 Site # 20794         NATA # 1261           NATA # 1261 Site # 18217         Site # 23736
Company Name:       Coffey Geotechnics Pty Ltd Chatswood         Address:       Level 18, Tower B, Citadel Tower 799 Pacific Highway         Chatswood       NSW 2067         Project Name:       MERITON WARRIEWOOD         Project ID:       SYDEN205656								der N port <del>/</del> one: x:	o.: #:	5 ++ +	75489 61 2 9 61 2 9	406 1 406 1	Received:         Nov 30, 2017 5:20 PM           Due:         Dec 7, 2017           5 1000         Priority:         5 Day           6 1002         Contact Name:         Jessie Sixsmith
Sample Detail							HOLD	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH	
Melb	ourne Laborate	ory - NATA Site	# 1254 & 142	71			х	Х	Х	Х	Х	Х	
Sydr	ney Laboratory	- NATA Site # 1	8217			Х							_
Bris	bane Laborator	y - NATA Site #	20794										-
34		Nov 29 2017	30	Soil	M17-De02439		x						-
35	TP33 1.0-1.2	Nov 29, 2017		Soil	M17-De02430		x						-
36	TP34_1.0-1.3	Nov 29, 2017		Soil	M17-De02441		X						1
37	TRIP SPIKE	Nov 29, 2017		Soil	M17-De02442							х	
38	TRIP BLANK 101	Nov 29, 2017		Soil	M17-De02443							х	
Test	Counts					26	6	11	11	14	15	2	





### Certificate of Analysis



NATA Accredited Accreditation Number 1261 Site Number 1254

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.

Coffey Geotechnics Pty Ltd Chatswood Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067

Attention:	Jessie Sixsmith
Report	575489-AID
Project Name	MERITON WARRIEWOOD
Project ID	SYDEN205656
Received Date	Nov 30, 2017
Date Reported	Dec 07, 2017
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. <i>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.</i>
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 AS4964 method for inhomogeneous samples is around 0.1 g/kg (0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis where required, this is considered to be at the nominal reporting limit of 0.01 % (w / w). The examination of large sample sizes(500 mL is recommended) may improve the likelihood of identifying ACM in the > 2mm fraction. The NEPM screening level of 0.001 % (w / w) asbestos in soil for FA(friable asbestos) and AF(asbestos fines) then applies where they are able to be quantified by gravimetric procedures. This quantitative screening is not generally applicable to FF(free fibres) and results of Trace Analysis are referred. NOTE: NATA News March 2014, p.7, states in relation to AS4964: "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". Accordingly, NATA Accreditation does not cover the performance of this service (indicated with an asterisk). This report is consistent with the analytical procedures and reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended) and the Western Australia 2009, including currently applies of Aboetson Scort Aboetson is Cover the performance of Sites in Western Australia, 2009, including recommended Drave the procedures for the Aspestor Action and Management of Asbestos-Contaminated Sites in Western Australia, 2009, including currenting down may for Aboetson is cover the Aspestor for the Aspestor Action Action and Management of Asbestos-Contaminated Sites in Western Australia, 2009, including currenting down may for Aboetson is cover the Aspestor of Scie Contamination of Asbestos-Contaminated Sites in Western Australia, 2009, including currenting down may the advection of a scie Contamination for the Aspestor of Scie Contamination of Asbestos Contaminated Sites in Western Australia Guidelines for the Aspesting down may th





NATA Accredited Accreditation Number 1261 Site Number 1254

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	MERITON WARRIEWOOD
Project ID	SYDEN205656
Date Sampled	Nov 29, 2017
Report	575489-AID

Client Sample ID	Eurofins   mgt Sample No.	Date Sampled	Sample Description	Result
TP13_V1	17-De02406	Nov 29, 2017	Approximate Sample 127g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP13_V2	17-De02407	Nov 29, 2017	Approximate Sample 202g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP13_V3	17-De02408	Nov 29, 2017	Approximate Sample 217g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP13_V4	17-De02409	Nov 29, 2017	Approximate Sample 194g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP13_V5	17-De02410	Nov 29, 2017	Approximate Sample 280g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP21_V1	17-De02411	Nov 29, 2017	Approximate Sample 369g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP21_V2	17-De02412	Nov 29, 2017	Approximate Sample 243g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP21_V3	17-De02413	Nov 29, 2017	Approximate Sample 242g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP21_V4	17-De02414	Nov 29, 2017	Approximate Sample 256g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP21_V5	17-De02415	Nov 29, 2017	Approximate Sample 206g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.





NATA Accredited Accreditation Number 1261 Site Number 1254

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.

Client Sample ID	Eurofins   mgt Sample No.	Date Sampled	Sample Description	Result
TP04_V1	17-De02416	Nov 29, 2017	Approximate Sample 369g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP04_V2	17-De02417	Nov 29, 2017	Approximate Sample 348g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP04_V3	17-De02418	Nov 29, 2017	Approximate Sample 377g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP04_V4	17-De02419	Nov 29, 2017	Approximate Sample 308g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP04_V5	17-De02420	Nov 29, 2017	Approximate Sample 237g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP29_0.1-0.2	17-De02421	Nov 29, 2017	Approximate Sample 660g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP30_0.0-0.2	17-De02423	Nov 29, 2017	Approximate Sample 508g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP30_0.5-0.6	17-De02424	Nov 29, 2017	Approximate Sample 484g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP32_0.1-0.2	17-De02427	Nov 29, 2017	Approximate Sample 311g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP32_0.5-0.6	17-De02428	Nov 29, 2017	Approximate Sample 301g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP31_0.1-0.2	17-De02429	Nov 29, 2017	Approximate Sample 574g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP33_0.1-0.2	17-De02431	Nov 29, 2017	Approximate Sample 312g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP33_0.5-0.6	17-De02432	Nov 29, 2017	Approximate Sample 370g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.





NATA Accredited Accreditation Number 1261 Site Number 1254

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.

Client Sample ID	Eurofins   mgt Sample No.	Date Sampled	Sample Description	Result
TP33_2.3-2.4	17-De02433	Nov 29, 2017	Approximate Sample 474g Sample consisted of: Brown coarse grain soil and rocks	Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of asbestos containing material = 0.0031g* Total estimated asbestos content in the sample = 0.0028g* Total estimated asbestos concentration = 0.00059% w/w* Organic fibre detected. No respirable fibres detected.
TP34_0.2-0.3	17-De02434	Nov 29, 2017	Approximate Sample 445g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres detected.
TP34_0.5-0.7	17-De02435	Nov 29, 2017	Approximate Sample 325g Sample consisted of: Brown coarse grain soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w.* Organic fibre detected. No respirable fibres 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 (regarding both quality and NATA accreditation).

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	
Asbestos - LTM-ASB-8020	

Testing Site	Extracted	Holding Time
Perth	Dec 07, 2017	Indefinite

•	eurofins mgt						ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au					<b>Melbou</b> 3-5 Kin Oakleig Phone NATA # Site # 1	gston Town Close gston Town Close h VIC 3166 :+61 3 8564 5000 # 1261  254 & 14271	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	Brisbane 1/21 Smallwoo Murarrie QLD Phone : +61 7 NATA # 1261	od Place 4172 3902 4600 Site # 20794	Perth 2/91 Leach Highway Kewdale WA 6105 Phone : +61 8 9251 9600 NATA # 1261 Site # 23736
Co Ao	ompany Name: Idress:	Coffey Geote Level 18, To Chatswood NSW 2067	echnics Pty Lt wer B, Citade	d Chatswood I Tower 799 Pao	cific Highway	Order No.: Report #: 575 Phone: +61 Fax: +61				75489 61 2 9 61 2 9	489 2 9406 1000 2 9406 1002		Received:Nov 30, 2017 5:20 PMDue:Dec 7, 2017Priority:5 DayContact Name:Jessie Sixsmith		017 5:20 PM 17 ssmith		
Project Name:         MERITON WARRIEWOOD           Project ID:         SYDEN205656													Eurofins   mgt /	Analytical Se	ervices Mar	nager : Nibha Vaidya	
	Sample Detail						HOLD	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH					
Mell	pourne Laborate	ory - NATA Site	# 1254 & 142	271			х	X	X	Х	Х	Х	-				
Syd	ney Laboratory	- NATA Site # 1	8217						<b>└──</b> ′				-				
Bris	bane Laborator	y - NATA Site #	20794						!								
Pert	h Laboratory - I	NATA Site # 237	'36			X			<u>                                     </u>				-				
No	Sample ID	Sample Date	Sampling	Matrix					┝──┦								
		eanipie zaie	Time						ļ!								
1	TP13_V1	Nov 29, 2017		Soil	M17-De02406	X			<b> </b> '				-				
2	TP13_V2	Nov 29, 2017		Soil	M17 Do02407	×			<sup> </sup>				-				
4	TP13_V4	Nov 29, 2017		Soil	M17-De02408	×											
5	TP13 V5	Nov 29, 2017		Soil	M17-De02409	x							1				
6	TP21 V1	Nov 29, 2017		Soil	M17-De02411	X							1				
7	TP21_V2	Nov 29, 2017		Soil	M17-De02412	X							1				
8	 TP21_V3	Nov 29, 2017		Soil	M17-De02413	х							1				
9	TP21_V4	Nov 29, 2017		Soil	M17-De02414	Х							]				

🔅 euro	ofins   mg	t		ABN – e.mail : web : w	50 005 Enviros /ww.eur	085 52 Sales@ ofins.cc	1 eurofins om.au	s.com		Melbou 3-5 King Oakleig Phone : NATA # Site # 1	Irne gston Town Close h VIC 3166 ± 461 3 8564 5000 ≇ 1261 254 & 14271	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	Brisbane 1/21 Smallwoc Murarrie QLD Phone : +61 7 NATA # 1261 3	d Place 4172 3902 4600 Site # 20794	Perth 2/91 Leach Highway Kewdale WA 6105 Phone: +61 8 9251 9600 NATA # 1261 Site # 23736
Company Name: Address:	Coffey Geotechnics Pty Level 18, Tower B, Citae Chatswood NSW 2067	Ltd Chatswood del Tower 799 Pa	acific Highway	Order No.: Report #: 57 Phone: +€ Fax: +€			75489 61 2 9 61 2 9	5489 1 2 9406 1000 1 2 9406 1002		Received:Nov 30, 2017 5:20 PMDue:Dec 7, 2017Priority:5 DayContact Name:Jessie Sixsmith		2017 5:20 PM 017 xsmith			
Project Name: Project ID:	MERITON WARRIEWO SYDEN205656	OD										Eurofins   mgt #	Analytical Se	rvices Ma	nager : Nibha Vaidya
Sample Detail					HOLD	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH					
Melbourne Laborato	ory - NATA Site # 1254 & 1	4271			х	х	Х	х	х	х					
Sydney Laboratory	- NATA Site # 18217														
Brisbane Laborator	y - NATA Site # 20794														
Perth Laboratory - N	ATA Site # 23736			Х											
10 TP21_V5	Nov 29, 2017	Soil	M17-De02415	X											
11 TP04_V1	Nov 29, 2017	Soil	M17-De02416	X											
12 TP04_V2	Nov 29, 2017		M17 De02417	×											
14 TP04_V3	Nov 29, 2017	Soil	M17 De02418	×											
15 TP04_V4	Nov 29, 2017	Soil	M17-De02419	x							-				
16 TP29 0 1-0 2	Nov 29, 2017	Soil	M17-De02420	x		x	x	x	x		4				
17 TP29 0.8-1 0	Nov 29, 2017	Soil	M17-De02421					x	X		•				
18 TP30 0.0-0.2	Nov 29, 2017	Soil	M17-De02423	х		X	х	x	X		1				
19 TP30 0.5-0.6	Nov 29, 2017	Soil	M17-De02424	Х		x	x	x	x						
20 QB101	Nov 29, 2017	Soil	M17-De02425	1	1		1	x	x		1				
21 QR101	Nov 29, 2017	Water	M17-De02426						Х		]				

\$	euro	ofins	mgt			ABN – e.mail web : v	50 005 : Enviro vww.eur	085 52 Sales@ rofins.co	1 eurofins om.au	s.com		Melbou 3-5 King Oakleig Phone : NATA # Site # 1	gston Town Close gston Town Close th VIC 3166 ±+61 3 8564 5000 # 1261 2254 & 14271	<b>Sydney</b> Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	Brisbane 1/21 Smallwoo Murarrie QLD Phone : +61 7 NATA # 1261	od Place 4172 3902 4600 Site # 20794	Perth 2/91 Leach Highway Kewdale WA 6105 Phone : +61 8 9251 9600 NATA # 1261 Site # 23736
Ca	ompany Name: ddress:	Coffey Geote Level 18, To Chatswood NSW 2067	echnics Pty Ltd ( wer B, Citadel T	Chatswood ower 799 Pac	cific Highway		Or Re Ph Fa	der N eport ione: x:	lo.: #:	5 + +	75489 61 2 9 61 2 9	) )406 1 )406 1	1000	Receive Due: Priority Contact	ed: : : Name:	Nov 30, 2 Dec 7, 20 5 Day Jessie Si	2017 5:20 PM 017 xsmith
Pr Pr	oject Name: oject ID:	MERITON W SYDEN2056	VARRIEWOOD											Eurofins   mgt A	Analytical Se	ervices Ma	nager : Nibha Vaidya
		Sa	mple Detail			Asbestos - AS4964	HOLD	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH					
Mel	bourne Laborato	ry - NATA Site	# 1254 & 1427				Х	Х	Х	Х	Х	Х	]				
Syd	ney Laboratory -	NATA Site # 1	8217						<u> </u>				-				
Bris	bane Laboratory	/ - NATA Site #	20794						—								
Per	th Laboratory - N	ATA Site # 237	736		1	Х			<u> </u>				-				
22	TP32_0.1-0.2	Nov 29, 2017	S	oil	M17-De02427	X		X		X	X		4				
23	TP32_0.5-0.6	Nov 29, 2017			M17-De02428						X		{				
24	TP21 1 0 1 4	Nov 29, 2017			M17 De02429	^		×	<u> </u>				{				
25	TP31_1.0-1.1	Nov 29, 2017			M17 De02430	×		×	×	×	×		-				
20	TP33_0.1-0.2	Nov 29, 2017			M17-De02431	x		x	X	x	x		-				
28	TP33_2.3-2.4	Nov 29, 2017		oil	M17-De02432	x		x	x	x	X		1				
20	TP34_0.2-0.3	Nov 29, 2017		oil	M17-De02433	X		X	X	X	X		-				
30	TP34_0.5-0.7	Nov 29, 2017		oil	M17-De02435	X		x	X	x	X		1				
31	TP29 0.5-0.6	Nov 29, 2017		oil	M17-De02436		x						1				
32	TP30 1.1-1.3	Nov 29, 2017		oil	M17-De02437		X		1				1				
33	TP32_0.9-1.1	Nov 29, 2017	s	oil	M17-De02438	1	х						1				

🔅 euro	eurofins mgt					ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au				<b>Melbou</b> 3-5 Kin Oakleig Phone NATA # Site # 1	urne gston Town Close jh VIC 3166 : +61 3 8564 5000 #1261 2254 & 14271	<b>Sydney</b> Unit F3, Building F 16 Mars Road Lane Cove West NSW 206 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	Brisbane 1/21 Small Murarrie Q 6 Phone : +6 NATA # 12	wood Place LD 4172 17 3902 4600 61 Site # 20794	Perth 2/91 Leach Highway Kewdale WA 6105 Phone : +61 8 9251 9600 NATA # 1261 Site # 23736
Company Name:       Coffey Geotechnics Pty Ltd Chatswood         Address:       Level 18, Tower B, Citadel Tower 799 Pacific Highway         Chatswood       NSW 2067				Order No.: Report #: 5754 Phone: +61 Fax: +61				75489 61 2 9 61 2 9	) )406 1 )406 1	1000 1002	Recei Due: Priori Conta	ved: ty: ict Name:	Nov 30, 2 Dec 7, 20 5 Day Jessie Si	2017 5:20 PM 017 xsmith	
Project Name:       MERITON WARRIEWOOD         Project ID:       SYDEN205656												Eurofins   mg	t Analytical	Services Ma	nager : Nibha Vaidya
Sample Detail					HOLD	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH					
Melbourne Laborato	ry - NATA Site	# 1254 & 14271			Х	Х	Х	Х	Х	Х					
Sydney Laboratory -	NATA Site # 1	18217									-				
Brisbane Laboratory	/ - NATA Site #	20794 726		Y							-				
34 TP31 0.5-0.6	Nov 29, 2017	Soil	M17-De02439		x										
35 TP33_1.0-1.2	Nov 29, 2017	Soil	M17-De02440		X						1				
36 TP34_1.0-1.3	Nov 29, 2017	Soil	M17-De02441		Х						]				
37 TRIP SPIKE 101	Nov 29, 2017	Soil	M17-De02442							х					
38 TRIP BLANK 101	TRIP BLANK         Nov 29, 2017         Soil         M17-De02443           101									х					
Test Counts	t Counts				6	11	11	14	15	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. This report replaces any interim results previously issued.

### **Holding Times**

Units

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.

mgt

% w/w: weight for weight b	pasis	grams per kilogram
Filter loading:	f	fibres/100 graticule areas
Reported Concentration:	f	fibres/mL
Flowrate:	1	L/min
Terms		
Dry	Where a moisture has been determined on a solid sample the result is	is expressed on a dry basis
LOR	Limit of Reporting	
COC	Chain of Custody	
SRA	Sample Receipt Advice	
ISO	International Standards Organisation	
AS	Australian Standards	
WA DOH	Western Australia Department of Health	
NOHSC	National Occupational Health and Safety Commission	
ACM	Bonded asbestos-containing material means any material containing although possibly broken or fragmented, and where the asbestos is b to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acc ceiling plaster, ceiling tiles, and gasket materials. This term is restricte approximates the thickness of common asbestos cement sheeting an for fibre release.	more than 1% asbestos and comprises asbestos-containing-material which is in sound condition, bound in a matrix such as cement or resin. Common examples of ACM include but are not limited oustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ed to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it and for fragments to be smaller than this would imply a high degree of damage and hence potential
FA	FA comprises friable asbestos material and includes severely weathe is defined here as asbestos material that is in a degraded condition su was previously bonded and is now significantly degraded (crumbling).	ared cement sheet, insulation products and woven asbestos material. This type of friable asbestos uch that it can be broken or crumbled by hand pressure. This material is typically unbonded or
PACM	Presumed Asbestos-Containing Material means thermal system insul than 1980 that are assumed to contain greater than one percent asbe	lation and surfacing material found in buildings, vessels, and vessel sections constructed no later estos but have not been sampled or analyzed to verify or negate the presence of asbestos.
AF	Asbestos fines (AF) are defined as free fibres, or fibre bundles, small small fibres (< 5 microns in length) are not considered to be such a ris (Note that for bonded ACM fragments to pass through a 7 mm x 7 mm	er than 7mm. It is the free fibres which present the greatest risk to human health, although very sk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve. m sieve implies a substatntial degree of damage which increases the potential for fibre release.)
AC	Asbestos cement means a mixture of cement and asbestos fibres (type)	pically 90:10 ratios).



### Comments

The samples received were subsampled in accordance with AS4964. Valid sub-sampling procedures were applied.

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
Comments	

#### **Qualifier Codes/Comments**

Code Description N/A Not applicable

#### Asbestos Counter/Identifier:

Edward Rowley

Asbestos Analyst (WA)

### Authorised by:

Rhys Thomas

Senior Analyst-Asbestos (WA)

**Glenn Jackson National Operations Manager** 

Final Report - this report replaces any previously issued Report

- Indicates Not Requested

\* Indicates NATA accreditation does not cover the performance of this service

Uncertainty data is available on request

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### Certificate of Analysis

Coffey Geotechnics Pty Ltd Chatswood Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067





NATA Accredited Accreditation Number 1261 Site Number 1254

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:
------------

Jessie Sixsmith

Report Project name Project ID Received Date 575489-S MERITON WARRIEWOOD SYDEN205656 Nov 30, 2017

Client Sample ID			TP29_0.1-0.2	TP29_0.8-1.0	TP30_0.0-0.2	TP30_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02421	M17-De02422	M17-De02423	M17-De02424
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	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) <sup>N04</sup>	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	220	< 100	110	140
TRH >C34-C40	100	mg/kg	170	< 100	130	170
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
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	79	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	190	< 50	100	140
TRH C10-36 (Total)	50	mg/kg	269	< 50	100	140
втех						
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	%	89	93	90	95
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.6	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.0	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.3	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	0.6	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene <sup>N07</sup>	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



Client Sample ID			TP29_0.1-0.2	TP29_0.8-1.0	TP30_0.0-0.2	TP30_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02421	M17-De02422	M17-De02423	M17-De02424
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.5	ma/ka	0.6	< 0.5	< 0.5	< 0.5
Fluorene	0.5	ma/ka	< 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	0.8	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	2	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	88	99	93	89
p-Terphenyl-d14 (surr.)	1	%	84	103	96	84
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	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
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	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	103	110	Q09int	<sup>Q09</sup> int
Tetrachloro-m-xylene (surr.)	1	%	97	97	60	51
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
Chlortenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyritos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
	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
	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
Dimothoato	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
טווופנווטמנפ	0.2	пиу/ку	< 0.2	< 0.2	< 0.2	< 0.2



Client Sample ID			TP29_0.1-0.2	TP29_0.8-1.0	TP30_0.0-0.2	TP30_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02421	M17-De02422	M17-De02423	M17-De02424
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Tost/Potoronco		Lloit				
Organonhosnhorus Pesticides	LUK	Unit				
Disulfaton	0.2	malka	- 0.2	- 0.2	- 0.2	- 0.2
	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EFIN Ethiop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethorron	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
Emitrothion	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	ma/ka	< 0.2	< 0.2	< 0.2	< 0.2
Merchos	0.2	ma/ka	< 0.2	< 0.2	< 0.2	< 0.2
Methyl parathion	0.2	ma/ka	< 0.2	< 0.2	< 0.2	< 0.2
Mevinphos	0.2	ma/ka	< 0.2	< 0.2	< 0.2	< 0.2
Monocrotophos	2	ma/ka	< 2	< 2	< 2	< 2
Naled	0.2	ma/ka	< 0.2	< 0.2	< 0.2	< 0.2
Omethoate	2	ma/ka	< 2	< 2	< 2	< 2
Phorate	0.2	ma/ka	< 0.2	< 0.2	< 0.2	< 0.2
Pirimiphos-methyl	0.2	ma/ka	< 0.2	< 0.2	< 0.2	< 0.2
Pyrazophos	0.2	ma/ka	< 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	%	89	89	88	84
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	103	-	Q09int	Q09int
Tetrachloro-m-xylene (surr.)	1	%	97	-	60	51
Acid Herbicides						
2.4-D	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2.4-DB	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2.4.5-T	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
2.4.5-TP	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Actril (loxynil)	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dicamba	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dichlorprop	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dinitro-o-cresol	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dinoseb	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
МСРА	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
MCPB	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Месоргор	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Warfarin (surr.)	1	%	91	-	107	93



Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled			TP29_0.1-0.2 Soil M17-De02421 Nov 29, 2017	TP29_0.8-1.0 Soil M17-De02422 Nov 29, 2017	TP30_0.0-0.2 Soil M17-De02423 Nov 29, 2017	TP30_0.5-0.6 Soil M17-De02424 Nov 29, 2017
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	3.7	5.8	< 2	2.4
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	28	21	14	18
Copper	5	mg/kg	9.0	< 5	6.0	29
Lead	5	mg/kg	22	19	26	50
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	11	< 5	< 5	9.1
Zinc	5	mg/kg	46	5.3	69	43
% Moisture	1	%	16	24	11	19

Client Sample ID			QB101	TP32_0.1-0.2	TP32_0.5-0.6	TP31_0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02425	M17-De02427	M17-De02428	M17-De02429
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	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) <sup>N04</sup>	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	200
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	120
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
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	86
TRH C29-C36	50	mg/kg	70	< 50	52	170
TRH C10-36 (Total)	50	mg/kg	70	< 50	52	256
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	%	93	97	123	120
Polycyclic Aromatic Hydrocarbons						
Comments					G01	
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	0.9
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	2.4	1.2
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	4.8	1.5
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 2	0.8



Sample Matrix         Fundring Ing Sample Ao.         Soil         Soil         Soil         Soil         Soil           Date Sample Ao.         Lind Fundre Add Sample Add Sa	Client Sample ID			QB101	TP32_0.1-0.2	TP32_0.5-0.6	TP31_0.1-0.2									
Eurofining Sample No.         Level No.         Mathematical Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Science Notal Scienc	Sample Matrix			Soil	Soil	Soil	Soil									
Date Sampled         LOR         Unit         Nov 29, 2017         Nov 29, 2017         Nov 29, 2017         Nov 29, 2017           Tast/Reference         LOR         Unit               Benzolp hilpenytein         0.5         mgtg         <0.5	Eurofins   mgt Sample No.			M17-De02425	M17-De02427	M17-De02428	M17-De02429									
TestBrearce         LOR         Unit         Unit         Unit         Unit         Unit           Polycyclic Aromatic Hydrocarbon         0.5         mg/sq.         < 0.5	Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017									
Polycyclic Aromatic Hytorcarbons         Image	Test/Reference	LOR	Unit													
Benzolshilturanthene <sup>NVV</sup> 0.5         mg/kg         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5	Polycyclic Aromatic Hydrocarbons															
Benzégihjenyéne         0.5         mg/kg         < 0.5         < < 2         0.5           Benzok/litoranthene         0.5         mg/kg         < 0.5	< <	< <td>&lt; &lt; </td> < <td>&lt; <td>&lt; <td>&lt; <td>&lt; <td>&lt; <td>&lt; &lt; </td>         &lt;</td><td>Benzo(b&amp;j)fluoranthene<sup>N07</sup></td><td>0.5</td><td>mg/kg</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 2</td><td>&lt; 0.5</td></td></td></td></td>	< <	< <td>&lt; <td>&lt; <td>&lt; <td>&lt; <td>&lt; &lt; </td>         &lt;</td><td>Benzo(b&amp;j)fluoranthene<sup>N07</sup></td><td>0.5</td><td>mg/kg</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 2</td><td>&lt; 0.5</td></td></td></td>	< <td>&lt; <td>&lt; <td>&lt; <td>&lt; &lt; </td>         &lt;</td><td>Benzo(b&amp;j)fluoranthene<sup>N07</sup></td><td>0.5</td><td>mg/kg</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 2</td><td>&lt; 0.5</td></td></td>	< <td>&lt; <td>&lt; <td>&lt; &lt; </td>         &lt;</td><td>Benzo(b&amp;j)fluoranthene<sup>N07</sup></td><td>0.5</td><td>mg/kg</td><td>&lt; 0.5</td><td>&lt; 0.5</td><td>&lt; 2</td><td>&lt; 0.5</td></td>	< <td>&lt; <td>&lt; &lt; </td>         &lt;</td> <td>Benzo(b&amp;j)fluoranthene<sup>N07</sup></td> <td>0.5</td> <td>mg/kg</td> <td>&lt; 0.5</td> <td>&lt; 0.5</td> <td>&lt; 2</td> <td>&lt; 0.5</td>	< <td>&lt; &lt; </td> <	< <	Benzo(b&j)fluoranthene <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5
Banzolithumanhene         0.5         mg/kg         < 0.5         < < 0.5         < < 2         0.6           Chrysene         0.5         mg/kg         < 0.5	Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 2	0.5									
Chrysene         0.5         mg/kg         < 0.5         < 0.5         < 2         < 0.5           Dibenz(a))anthacene         0.5         mg/kg         < 0.5	Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 2	0.6									
Debm2.ah)anthracene         0.5         mgkg         < 0.5         < 0.5         < 2.0         < 0.5           Puoranthene         0.5         mgkg         < 0.5	Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5									
Fluoranhene         0.5         mg/kg         < 0.5         < 0.5         < 2         < 1.1           Fluorene         0.5         mg/kg         < 0.5	Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5									
Fluorene         0.5         mg/kg         < 0.5         < < 0.5         < < 2         < < 0.5           Indeno(1,2,3-od)prene         0.5         mg/kg         < 0.5	Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 2	1.1									
Indemof12.3-adplyrene         0.5         mg/kg         < 0.5         < < 0.5         < < 0.5         < < 2         < < 0.5           Naphthalene         0.5         mg/kg         < 0.5	Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5									
Naphthalene         0.5         mg/kg         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5	Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5									
Phenanthrene         0.5         mg/kg         < 0.5         < < 2         0.5           Pyrene         0.5         mg/kg         < 0.5	Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 2	< 0.5									
Pyrene         0.5         mg/kg         < 0.5         < < 2         1.0           Total PAH*         0.5         mg/kg         < 0.5	Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 2	0.5									
Total PAH*         0.5         mg/kg         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <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         <0.05         <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         <0.05         <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         <0.05         <0.05         <0.05         <0.05         <0.05         <0.05         <0.05         <0.	Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 2	1.0									
2-Fluorobiphenyl (surr.)         1         %         105         92         81         76           p-Terphenyl-d14 (surr.)         1         %         104         90         78         81           Organochlorine Pesticides                81           Chlordanes - Total         0.1         mg/kg         < 0.05	Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 2	4.5									
p-Terpheryl-d14 (sur.) 1 % 104 90 78 81 Organochlorine Pesticides Cholordanes - 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'-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 Advin 0.05 mg/kg < 0.05 < 0.05 < 0.05 Advin 0.05 mg/kg < 0.05 < 0.05 < 0.05 Advin 0.05 mg/kg < 0.05 < 0.05 < 0.05 Advin 0.05 mg/kg < 0.05 < 0.05 < 0.05 Advin 0.05 mg/kg < 0.05 < 0.05 < 0.05 Advin 0.05 mg/kg < 0.05 < 0.05 < 0.05 Advin 0.05 mg/kg < 0.05 < 0.05 Advin 0.05 mg/kg < 0.05 < 0.05 Advin 0.05 mg/kg < 0.05 < 0.05 Advin 0.05 mg/kg < 0.05 Advin 0.05 mg/kg < 0.05 Advin 0.05 mg/kg < 0.05 Advin 0.05 Endosulfan I 0.05 mg/kg < 0.05 Advin 0.05 Endosulfan I 0.05 mg/kg < 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 Advin 0.05 A	2-Fluorobiphenyl (surr.)	1	%	105	92	81	76									
Organochlorine Pesticides               Chlordanes - Total         0.1         mg/kg         < 0.05	p-Terphenyl-d14 (surr.)	1	%	104	90	78	81									
Chlordanes - Total         0.1 $mg/kg$ < 0.1         < 0.1         < 0.1         < 0.1         < 0.1           4.4'-DDD         0.05 $mg/kg$ < 0.05	Organochlorine Pesticides															
4.4'-DDD         0.05         mg/kg         < 0.05	Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1									
4.4'-DDE         0.05         mg/kg         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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 </td <td>4.4'-DDD</td> <td>0.05</td> <td>mg/kg</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td>	4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
4.4'-DDT         0.05         mg/kg         < 0.05	4.4'-DDE	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         < 0.05         mg/kg         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05	4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
Aldrin         0.05         mg/kg         < 0.05         < 0.05         mg/kg         < 0.05         < 0.05         mg/kg         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05	a-BHC	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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05	Aldrin	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         < 0.05           Dieldrin         0.05         mg/kg         < 0.05	b-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	d-BHC	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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.	Dieldrin	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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0	Endosulfan I	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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         <	Endosulfan II	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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05<	Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
Endrin aldehyde $0.05$ $mg/kg$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$	Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
Endrin ketone $0.05$ $mg/kg$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$	Endrin aldehyde	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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 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         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         < 0.05         <	Endrin ketone	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       < 0.05       < 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       < 0.05       < 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       < 0.05       < 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       < 0.05       < 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	g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
Heptachlor epoxide       0.05       Ing/kg       < 0.05       < 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       < 0.05       < 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       < 0.05       < 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       < 0.05       < 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	Heptachior	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
Hexachiorobenzene       0.05       mg/kg $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
Internoxychiol       0.05       Ing/kg $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ <t< td=""><td>Hexachlorobenzene</td><td>0.05</td><td>mg/kg</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td><td>&lt; 0.05</td></t<>	Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
Toxaprierie         I         Ing/kg         I         Ing/kg         I         I         Ing/kg         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I         I </td <td></td> <td>0.05</td> <td>mg/kg</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td> <td>&lt; 0.05</td>		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
Additional Determine (rotar) $0.05$ $mg/kg$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.05$ $< 0.$	Aldrin and Dioldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
DD1+DD2+DD2 (rotal)       0.053       mg/kg       < 0.053		0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05									
Vic EPA IWRG 621 Other OCP (Total)*       0.1       mg/kg       < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < < < 0.1       < <        < <        < <        < <        < <        < <        < <        < <        < <        < <        < <        < <        < <        < <        < <        < <        < <        < <        < <       < <        < <        < <        < <       < <       < <       < <       < <       < <       <       <       <       <       <       <       <       <       <      <	Vic EPA IWRG 621 OCP (Total)*	0.03	ma/ka	< 0.05	< 0.05	< 0.05	< 0.05									
No En rithme out of ends of (rotal)       0.1       mg/ng       Cont       State       <	Vic EPA IWRG 621 Other OCP (Total)*	0.1	ma/ka	< 0.1	< 0.1	< 0.1	< 0.1									
Dibdy/officiendate (surr.)       1       70       Int       101       Int       00         Tetrachloro-m-xylene (surr.)       1       %       50       90       58       92         Organophosphorus Pesticides       Image: Comments       G01       Image: Comments       G01         Azinphos-methyl       0.2       mg/kg       < 0.2	Dibuty/chlorendate (surr.)	1	//////////////////////////////////////	Q09int	101	Q09int	99									
Organophosphorus Pesticides         Image: Solution (contr)         Image: Sol	Tetrachloro-m-xylene (surr.)	1	%	50	90	58	92									
Comments         G01           Azinphos-methyl         0.2         mg/kg         < 0.2	Organophosphorus Pesticides		,,,	~~~~	~~~~											
Azinphos-methyl         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2	Comments					G01										
Bolstar         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2 <th< td=""><td>Azinphos-methyl</td><td>0.2</td><td>ma/ka</td><td>&lt; 0.2</td><td>&lt; 0.2</td><td>&lt; 2</td><td>&lt; 0.2</td></th<>	Azinphos-methyl	0.2	ma/ka	< 0.2	< 0.2	< 2	< 0.2									
OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         OL2         Inging         Inging <thinging< th="">         Inging         In</thinging<>	Bolstar	0.2	ma/ka	< 0.2	< 0.2	< 2	< 0.2									
Chlorpyrifos         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2	Chlorfenvinphos	0.2	ma/ka	< 0.2	< 0.2	< 2	< 0.2									
Chlorpyrifos-methyl $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2$ $< 0.2$	Chlorpyrifos	0.2	ma/ka	< 0.2	< 0.2	< 2	< 0.2									
	Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2									



Sample Namix         Functional matrix         Solid         Sol	Client Sample ID			QB101	TP32_0.1-0.2	TP32_0.5-0.6	TP31_0.1-0.2
Eurotins ingst Sample No.         Intr-De02425         M17-De02425         M17-De02425         M17-De02425         M17-De02425           Date Sampled         LOR         LIR         Int         Nov 23, 2017         Nov 23, 2017           Cargamphosphorus Positicides         Vor         York         < < 2	Sample Matrix			Soil	Soil	Soil	Soil
Deta Sampled         LOR         Unit         Nov 29, 2017         Nov 29, 2017         Nov 29, 2017           Task/Relevance         LOR         Unit              Counapplesphorus Pesticides         2         mg/kg         <2	Eurofins   mgt Sample No.			M17-De02425	M17-De02427	M17-De02428	M17-De02429
TestReference         LOR         Unit         Instruments         Instruments           Organophosphorus Pesticides $mgkg$ < 2	Date Sampled			Nov 29. 2017	Nov 29. 2017	Nov 29. 2017	Nov 29. 2017
Conservation         Colum         Columpond         Columpond           Counsphos         2         mg/kg         <2		LOR	Linit				,,
approximation         2         mg/kg         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2         <2	Organophosphorus Pesticides	LOIX	Offic				
Demoters         0         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1	Coumanhos	2	ma/ka	- 2	£ 2	- 2	£2
Dematcin-O         Dot         mg/sq $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$	Demeton-S	0.2	ma/ka	< 0.2	< 0.2	< 2	< 0.2
Dazinon         0.2         mg/sg         4.02         4.02         4.02         4.02         4.02           Dechloros         0.2         mg/sg         4.02         4.02         4.02         4.02           Dimethoate         0.2         mg/sg         4.02         4.02         4.02         4.02           Disulfoton         0.2         mg/sg         4.02         4.02         4.02         4.02           Ethon         0.2         mg/sg         4.02         4.02         4.02         4.02           Ethoprop         0.2         mg/sg         4.02         4.02         4.02         4.02           Fensitiothion         0.2         mg/sg         4.02         4.02         4.02         4.02           Fensitiothion         0.2         mg/sg         4.02         4.02         4.02         4.02           Fensitiothion         0.2         mg/sg         4.02         4.02         4.02         4.02           Merphos         0.2         mg/sg         4.02         4.02         4.02         4.02           Merphos         0.2         mg/sg         4.02         4.02         4.02         4.02           Moleynphos         0.2	Demeton-Q	0.2	ma/ka	< 0.2	< 0.2	< 2	< 0.2
Dechonos         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2 <t< td=""><td>Diazinon</td><td>0.2</td><td>ma/ka</td><td>&lt; 0.2</td><td>&lt; 0.2</td><td>&lt; 2</td><td>&lt; 0.2</td></t<>	Diazinon	0.2	ma/ka	< 0.2	< 0.2	< 2	< 0.2
Dimethosate         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2	Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Disultation         0.2 $mgkg$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ <t< td=""><td>Dimethoate</td><td>0.2</td><td>mg/kg</td><td>&lt; 0.2</td><td>&lt; 0.2</td><td>&lt; 2</td><td>&lt; 0.2</td></t<>	Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
EPN         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         <	Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Ethion         0.2         mg/kg $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0$	EPN	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Endprop $0.2$ $mg/k_0$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ <t< td=""><td>Ethion</td><td>0.2</td><td>mg/kg</td><td>&lt; 0.2</td><td>&lt; 0.2</td><td>&lt; 2</td><td>&lt; 0.2</td></t<>	Ethion	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Erby parathion         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2	Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Fenitrothion       0.2       mg/kg $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$	Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Fensulation $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Fenthion $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Matathion $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Merphos $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Methyl parathion $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Moncorotophos $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 2.2$ Naled $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 2.2$ Omethoate $2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Phrate $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Phrate $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Pyrazophos $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Ronnel $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Tethulos $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Tethulon $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Tethulon $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ Tethulon $0.2$ mg/kg $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ Tethulon $0.1$ mg/kg $< 0.1$ $< 0.1$ $< 0.1$ Aroclor-1221 <td>Fenitrothion</td> <td>0.2</td> <td>mg/kg</td> <td>&lt; 0.2</td> <td>&lt; 0.2</td> <td>&lt; 2</td> <td>&lt; 0.2</td>	Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Fenthion         0.2         mg/kg $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< < 2$ $< 2$ $< 2$ $< 2$ $< 2$ $< 2$ $< 2$ $< 2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$	Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Malathion         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2	Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Merphos         0.2         mg/kg         < 0.2         < 0.2         < 2.2         < 0.2           Methyl parathion         0.2         mg/kg         < 0.2	Malathion	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Methy parathion         0.2 $mg/kg$ < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2	Merphos	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Mevinphos         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2	Methyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Monocrotophos         2         mg/kg         < 2         < 2         < 2         < 2           Naled         0.2         mg/kg         < 0.2	Mevinphos	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Naled         0.2         mg/kg $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.$	Monocrotophos	2	mg/kg	< 2	< 2	< 2	< 2
Omethodate         2         mg/kg $< 2$ $< 2$ $< 2$ $< 2$ Phorate         0.2         mg/kg $< 0.2$ $< 0.2$ $< 2.2$ $< 0.2$ Prirniphos-methyl         0.2         mg/kg $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ <td< td=""><td>Naled</td><td>0.2</td><td>mg/kg</td><td>&lt; 0.2</td><td>&lt; 0.2</td><td>&lt; 2</td><td>&lt; 0.2</td></td<>	Naled	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
$\begin{array}{l c c c c c c c c c c c c c c c c c c c$	Omethoate	2	mg/kg	< 2	< 2	< 2	< 2
Pirimiphos-methyl         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2	Phorate	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Pyrazophos         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2	Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Ronnel         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1 <th< td=""><td>Pyrazophos</td><td>0.2</td><td>mg/kg</td><td>&lt; 0.2</td><td>&lt; 0.2</td><td>&lt; 2</td><td>&lt; 0.2</td></th<>	Pyrazophos	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Terbufos $0.2$ $mg/kg$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ <t< td=""><td>Ronnel</td><td>0.2</td><td>mg/kg</td><td>&lt; 0.2</td><td>&lt; 0.2</td><td>&lt; 2</td><td>&lt; 0.2</td></t<>	Ronnel	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Tetrachlorvinphos         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1	Terbufos	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Tokuhion         0.2 $mg/kg$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.2$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$ $< 0.1$	Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Trichloronate         0.2         mg/kg         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.2         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1	Tokuthion	0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Triphenylphosphate (surr.)         1         %         89         92         88         91           Polychlorinated Biphenyls         -         <		0.2	mg/kg	< 0.2	< 0.2	< 2	< 0.2
Projection         Constraints         Constraints <thconstraints< th=""> <thconstraints< th=""></thconstraints<></thconstraints<>	Iriphenylphosphate (surr.)	1	%	89	92	88	91
Arcclor-1016       0.1       mg/kg       -       < 0.1       < 0.1       < 0.1         Arcclor-1221       0.1       mg/kg       -       < 0.1	Polychlorinated Biphenyls						
Arcclor-1221       0.1       mg/kg       -       < 0.1	Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1232       0.1       mg/kg       -       < 0.1	Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1242       0.1       mg/kg       -       < 0.1	Arocior-1232	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-12-to         0.1         Itig/kg         -         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1	Aroclor 1242	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1254       0.1       Intg/kg       -       < 0.1	Aroclor 1254	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Noccor 1200         0.1         Hg/kg         -         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1         < 0.1 <th< td=""><td>Aroclor-1260</td><td>0.1</td><td>mg/kg</td><td>-</td><td>&lt; 0.1</td><td>&lt; 0.1</td><td>&lt; 0.1</td></th<>	Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Initial PCB       0.1       Initig/kg       -	Total BCB*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Tetrachloro-m-xylene (surr.)         1         %         -         90         58         92           Acid Herbicides         2.4-D         0.5         mg/kg         -         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5 </td <td>Dibutylchlorendate (surr.)</td> <td>1</td> <td> %</td> <td>-</td> <td>101</td> <td>Q<sup>09</sup>int</td> <td>99</td>	Dibutylchlorendate (surr.)	1	 %	-	101	Q <sup>09</sup> int	99
Acid Herbicides       0.5       mg/kg       -       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5       <0.5 <td>Tetrachloro-m-xylene (surr.)</td> <td>1</td> <td>%</td> <td>_</td> <td>90</td> <td>58</td> <td>92</td>	Tetrachloro-m-xylene (surr.)	1	%	_	90	58	92
2.4-D       0.5       mg/kg       -       < 0.5       < 0.5       < 0.5         2.4-DB       0.5       mg/kg       -       < 0.5	Acid Herbicides	1	/0				
2.4-DB       0.5       mg/kg       -       < 0.5       < 0.5       < 0.5         2.4-DB       0.5       mg/kg       -       < 0.5	2 4-D	0.5	ma/ka	_	< 0.5	< 0.5	< 0.5
2.4.5-T         0.5         mg/kg         -         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5         <0.5 <th< td=""><td>2 4-DB</td><td>0.5</td><td>ma/ka</td><td>-</td><td>&lt; 0.5</td><td>~ 0.5</td><td>&lt; 0.5</td></th<>	2 4-DB	0.5	ma/ka	-	< 0.5	~ 0.5	< 0.5
2.4.5-TP       0.5       mg/kg       -       < 0.5       < 0.5       < 0.5         Actril (loxynil)       0.5       mg/kg       -       < 0.5	2 4 5-T	0.5	ma/ka	-	< 0.5	< 0.5	< 0.5
Actril (loxynil)         0.5         mg/kg         -         < 0.5         < 0.5         < 0.5           Dicamba         0.5         mg/kg         -         < 0.5	2.4.5-TP	0.5	ma/ka	-	< 0.5	< 0.5	< 0.5
Dicamba         0.5         mg/kg         -         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0.5         < 0	Actril (loxynil)	0.5	ma/ka	-	< 0.5	< 0.5	< 0.5
Dichlorprop 0.5 ma/kg - <0.5 <0.5 <0.5	Dicamba	0.5	ma/ka	-	< 0.5	< 0.5	< 0.5
	Dichlorprop	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5



Client Sample ID Sample Matrix Eurofins   mgt Sample No.			QB101 Soil M17-De02425	TP32_0.1-0.2 Soil M17-De02427	TP32_0.5-0.6 Soil M17-De02428	TP31_0.1-0.2 Soil M17-De02429
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit				
Acid Herbicides						
Dinitro-o-cresol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dinoseb	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
MCPA	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
МСРВ	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Месоргор	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Warfarin (surr.)	1	%	-	96	96	94
Heavy Metals						
Arsenic	2	mg/kg	< 2	< 2	2.0	2.8
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	7.8	34	23
Copper	5	mg/kg	6.9	< 5	40	13
Lead	5	mg/kg	35	19	28	28
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	63	14
Zinc	5	mg/kg	27	17	68	17
% Moisture	1	%	12	7.7	5.6	16

	1	1			1	1
Client Sample ID			TP31_1.0-1.1	TP33_0.1-0.2	TP33_0.5-0.6	TP33_2.3-2.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02430	M17-De02431	M17-De02432	M17-De02433
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	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) <sup>N04</sup>	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	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
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
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 C10-36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
втех						
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	%	116	82	109	97



Client Sample ID			TP31_1.0-1.1	TP33_0.1-0.2	TP33_0.5-0.6	TP33_2.3-2.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02430	M17-De02431	M17-De02432	M17-De02433
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	ma/ka	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	ma/ka	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 <sup>N07</sup>	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	100	86	79
p-Terphenyl-d14 (surr.)	1	%	94	102	91	84
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
а-ВНС	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 Fachaultan	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldebyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	ma/ka	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	ma/ka	< 0.05	< 0.05	< 0.05	< 0.05
Hentachlor	0.05	ma/ka	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	ma/ka	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	ma/ka	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.05	ma/ka	< 0.05	< 0.05	< 0.05	< 0.05
Toxaphene	1	ma/ka	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	ma/ka	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/ka	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/ka	< 0.1	< 0.1	< 0.1	< 0.1
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	97	54	56	55
Tetrachloro-m-xylene (surr.)	1	%	91	53	56	59



Client Sample ID			TP31_1.0-1.1	TP33_0.1-0.2	TP33_0.5-0.6	TP33_2.3-2.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02430	M17-De02431	M17-De02432	M17-De02433
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit				
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
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	< 0.2	< 0.2	< 0.2	< 0.2
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	%	87	90	88	91
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1242	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1248	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1254	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1260	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Total PCB*	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Dibutylchlorendate (surr.)	1	%	-	54	56	55
Tetrachloro-m-xylene (surr.)	1	%	-	53	56	59



Client Sample ID			TP31_1.0-1.1	TP33_0.1-0.2	TP33_0.5-0.6	TP33_2.3-2.4
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02430	M17-De02431	M17-De02432	M17-De02433
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit				
Acid Herbicides		•				
2.4-D	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4-DB	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4.5-T	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
2.4.5-TP	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Actril (loxynil)	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dicamba	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dichlorprop	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dinitro-o-cresol	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dinoseb	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
MCPA	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
МСРВ	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Месоргор	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Warfarin (surr.)	1	%	-	99	93	93
Heavy Metals						
Arsenic	2	mg/kg	7.8	< 2	5.5	7.0
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	< 5	5.2	32	38
Copper	5	mg/kg	< 5	< 5	5.6	< 5
Lead	5	mg/kg	< 5	9.1	16	18
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5	< 5	< 5
Zinc	5	mg/kg	< 5	5.3	12	15
% Moisture	1	%	13	10	23	23

Client Sample ID Sample Matrix Eurofins   mgt Sample No. Date Sampled Test/Reference	LOR	Unit	TP34_0.2-0.3 Soil M17-De02434 Nov 29, 2017	TP34_0.5-0.7 Soil M17-De02435 Nov 29, 2017	R20TRIP SPIKE 101 Soil M17-De02442 Nov 29, 2017	TRIP BLANK 101 Soil M17-De02443 Nov 29, 2017
Total Recoverable Hydrocarbons - 2013 NEPM Fract	ions					
Naphthalene <sup>N02</sup>	0.5	mg/kg	< 0.5	< 0.5	94	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	100	< 20
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	20	mg/kg	< 20	< 20	-	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	-	-
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	50	mg/kg	< 50	< 50	-	-
TRH >C16-C34	100	mg/kg	< 100	260	-	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-	-
Total Recoverable Hydrocarbons - 1999 NEPM Fract	ions					
TRH C6-C9	20	mg/kg	< 20	< 20	100	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	97	-	-
TRH C29-C36	50	mg/kg	62	210	-	-
TRH C10-36 (Total)	50	mg/kg	62	307	-	-



Client Sample ID			TP34 0.2-0.3	TP34 0.5-0.7	R20TRIP SPIKE	TRIP BLANK
Sample Matrix			Soil	Soil	Soil	Soil
Furofins I mot Sample No.			M17-De02434	M17-De02435	M17-De02442	M17-De02443
			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
		Linit	100 23, 2017	1407 23, 2017	100 23, 2017	100 25, 2017
	LUR	Unit				
Banzana	0.1	malka	- 0.1	- 0.1	04	101
	0.1	mg/kg	< 0.1	< 0.1	94	< 0.1
	0.1	mg/kg	< 0.1	< 0.1	94	< 0.1
	0.1	mg/kg	< 0.1	< 0.1	92	< 0.1
	0.2	mg/kg	< 0.2	< 0.2	93	< 0.2
	0.1	mg/kg	< 0.1	< 0.1	92	< 0.3
A-Bromofluorobenzene (surr.)	1	111g/kg	< 0.3 83	104	93	55
4-Dromolidolobenzene (sull.)	1	70	03	104	30	
Ponze(a)pyropa TEO (lower bound) *	0.5	malka	< 0.5	< 0.5		
Benzo(a)pyrene TEQ (lower bound)	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(a)pyrene TEQ (inedialiti boaria)	0.5	mg/kg	0.0	0.0	-	-
Aconaphthana	0.5	mg/kg	1.2	1.2	-	-
	0.5	mg/kg	< 0.5	< 0.5	-	-
Acenaphinylene	0.5	mg/kg	< 0.5	< 0.5	-	-
Antiliacene Bonz(a)anthracana	0.5	mg/kg	< 0.5	< 0.5	-	-
	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(b&i)fluoranthana <sup>N07</sup>	0.5	mg/kg	< 0.5	< 0.5	-	-
	0.5	mg/kg	< 0.5	< 0.5	-	-
Benzo(k)fluoranthono	0.5	mg/kg	< 0.5	< 0.5	-	-
Chrysono	0.5	mg/kg	< 0.5	< 0.5	-	-
Dibenz(a b)anthracene	0.5	mg/kg	< 0.5	< 0.5	-	
Eluoranthene	0.5	mg/kg	< 0.5	< 0.5		_
Fluorene	0.5	mg/kg	< 0.5	< 0.5		
	0.5	ma/ka	< 0.5	< 0.5	_	_
Nanhthalene	0.5	ma/ka	< 0.5	< 0.5	_	_
Phenanthrene	0.5	ma/ka	< 0.5	< 0.5	_	_
Pyrene	0.5	ma/ka	< 0.5	< 0.5	_	_
Total PAH*	0.5	ma/ka	< 0.5	< 0.5	_	_
2-Fluorobinhenyl (surr.)	1	//////////////////////////////////////	87	67	_	_
p-Terphenyl-d14 (surr.)	1	%	89	76	_	_
Organochlorine Pesticides	•	70	00			
Chlordanes - Total	0.1	ma/ka	< 0.1	0.1	_	_
	0.05	ma/ka	< 0.05	< 0.05	_	_
4.4'-DDF	0.05	ma/ka	< 0.05	< 0.05	_	_
4 4'-DDT	0.05	ma/ka	< 0.05	< 0.05	_	_
a-BHC	0.05	ma/ka	< 0.05	< 0.05	_	_
Aldrin	0.05	ma/ka	< 0.05	< 0.05	_	_
h-BHC	0.05	ma/ka	< 0.05	< 0.05	_	_
d-BHC	0.05	ma/ka	< 0.05	< 0.05	_	_
Dieldrin	0.05	ma/ka	< 0.05	< 0.05	_	_
Endosulfan I	0.05	ma/ka	< 0.05	< 0.05	_	_
Endosulfan II	0.05	ma/ka	< 0.05	< 0.05	_	_
Endosulfan sulphate	0.05	ma/ka	< 0.05	< 0.05	_	_
Endrin	0.05	ma/ka	< 0.05	< 0.05	_	_
Endrin aldehvde	0.05	ma/ka	< 0.05	< 0.05	-	_
Endrin ketone	0.05	ma/ka	< 0.05	< 0.05	-	-
g-BHC (Lindane)	0.05	ma/ka	< 0.05	< 0.05	-	_
Heptachlor	0.05	ma/ka	< 0.05	< 0.05	-	-
Heptachlor epoxide	0.05	ma/ka	< 0.05	< 0.05	-	-
	5.00				1	



Client Sample ID			TP34_0.2-0.3	TP34_0.5-0.7	R20TRIP SPIKE	TRIP BLANK 101
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02434	M17-De02435	M17-De02442	M17-De02443
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit			, -	
Organochlorine Pesticides	Lon	Onit				
Hexachlorobenzene	0.05	ma/ka	< 0.05	< 0.05	_	_
Methoxychlor	0.00	ma/ka	< 0.05	< 0.05	_	_
Toxanhene	1	ma/ka	< 1	< 1	_	_
Aldrin and Dieldrin (Total)*	0.05	ma/ka	< 0.05	< 0.05	-	_
DDT + DDE + DDD (Total)*	0.05	ma/ka	< 0.05	< 0.05	-	_
Vic EPA IWRG 621 OCP (Total)*	0.00	ma/ka	< 0.1	0.1	-	_
Vic EPA IWRG 621 Other OCP (Total)*	0.1	ma/ka	< 0.1	0.1	-	_
Dibutylchlorendate (surr.)	1	<u>%</u>	117	111	-	-
Tetrachloro-m-xylene (surr.)	1	%	94	82	-	-
Organophosphorus Pesticides	•	,,,		02		
Azinnhos-methyl	0.2	ma/ka	< 0.2	< 0.2	<u> </u>	_
Bolstar	0.2	mg/kg	< 0.2	< 0.2	_	_
Chlorfenvinnhos	0.2	ma/ka	< 0.2	< 0.2	_	_
Chlorovrifos	0.2	ma/ka	< 0.2	< 0.2	_	_
Chlorovrifos-methyl	0.2	ma/ka	< 0.2	< 0.2	_	_
Coumanhos	2	ma/ka	< 2	< 2	_	_
Demeton-S	0.2	ma/ka	< 0.2	< 0.2	_	_
Demeton-Q	0.2	ma/ka	< 0.2	< 0.2	-	_
Diazinon	0.2	ma/ka	< 0.2	< 0.2	-	-
Dichloryos	0.2	ma/ka	< 0.2	< 0.2	-	-
Dimethoate	0.2	ma/ka	< 0.2	< 0.2	-	-
Disulfoton	0.2	ma/ka	< 0.2	< 0.2	-	-
EPN	0.2	ma/ka	< 0.2	< 0.2	-	-
Ethion	0.2	ma/ka	< 0.2	< 0.2	-	-
Ethoprop	0.2	ma/ka	< 0.2	< 0.2	-	-
Ethyl parathion	0.2	ma/ka	< 0.2	< 0.2	-	-
Fenitrothion	0.2	ma/ka	< 0.2	< 0.2	-	-
Fensulfothion	0.2	ma/ka	< 0.2	< 0.2	-	-
Fenthion	0.2	ma/ka	< 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	%	87	89	-	-



Client Sample ID			TP34_0.2-0.3	TP34_0.5-0.7	R20TRIP SPIKE	TRIP BLANK 101
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins   mgt Sample No.			M17-De02434	M17-De02435	M17-De02442	M17-De02443
Date Sampled			Nov 29, 2017	Nov 29, 2017	Nov 29, 2017	Nov 29, 2017
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls	_					
Aroclor-1016	0.1	mg/kg	< 0.1	< 0.1	_	-
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	< 0.1	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	< 0.1	-	-
Total PCB*	0.1	mg/kg	< 0.1	< 0.1	-	-
Dibutylchlorendate (surr.)	1	%	117	111	-	-
Tetrachloro-m-xylene (surr.)	1	%	94	82	-	-
Acid Herbicides						
2.4-D	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4-DB	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4.5-T	0.5	mg/kg	< 0.5	< 0.5	-	-
2.4.5-TP	0.5	mg/kg	< 0.5	< 0.5	-	-
Actril (loxynil)	0.5	mg/kg	< 0.5	< 0.5	-	-
Dicamba	0.5	mg/kg	< 0.5	< 0.5	-	-
Dichlorprop	0.5	mg/kg	< 0.5	< 0.5	-	-
Dinitro-o-cresol	0.5	mg/kg	< 0.5	< 0.5	-	-
Dinoseb	0.5	mg/kg	< 0.5	< 0.5	-	-
МСРА	0.5	mg/kg	< 0.5	< 0.5	-	-
МСРВ	0.5	mg/kg	< 0.5	< 0.5	-	-
Месоргор	0.5	mg/kg	< 0.5	< 0.5	-	-
Warfarin (surr.)	1	%	92	94	-	-
Heavy Metals						
Arsenic	2	mg/kg	2.8	6.5	-	-
Cadmium	0.4	mg/kg	< 0.4	< 0.4	-	-
Chromium	5	mg/kg	34	11	-	-
Copper	5	mg/kg	22	28	-	-
Lead	5	mg/kg	17	29	-	-
Mercury	0.1	mg/kg	< 0.1	< 0.1	-	-
Nickel	5	mg/kg	29	< 5	-	-
Zinc	5	mg/kg	62	120	-	-
% Moisture	1	%	12	19	-	-



### 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 (regarding both quality and NATA accreditation).

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	Melbourne	Dec 05, 2017	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons	Melbourne	Dec 02, 2017	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Dec 05, 2017	14 Day
- Method: LTM-ORG-2010 TRH C6-C36			
BTEX	Melbourne	Dec 05, 2017	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Eurofins   mgt Suite B10			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 05, 2017	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 05, 2017	14 Day
- Method: LTM-ORG-2130 PAH and Phenols in Soils by GCMS			
Organochlorine Pesticides	Melbourne	Dec 05, 2017	14 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Melbourne	Dec 05, 2017	14 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Metals M8	Melbourne	Dec 05, 2017	28 Days
- Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)			
Polychlorinated Biphenyls	Melbourne	Dec 05, 2017	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Acid Herbicides	Melbourne	Dec 05, 2017	14 Day
- Method: LTM-ORG-2180 Phenoxy Acid Herbicides			
% Moisture	Melbourne	Dec 02, 2017	14 Day
- Method: I TM-GEN-7080 Moisture			

ABN- 50 005 085 e.mail : EnviroSal web : www.eurofii							185 521 Sales@eurofins.com ofins.com.au				e ston Tov VIC 310 -61 3 85 1261 54 & 14	vn Close 36 364 5000 271	)	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	<b>Brisbane</b> 1/21 Smallwood Place Murarie QLD 4172 Phone : +61 7 3902 460 NATA # 1261 Site # 207	Perth           2/91 Leach Highway           Kewdale WA 6105           00         Phone : +61 8 9251 9600           '94         NATA # 1261           Site # 23736	
Company Name:         Coffey Geotechnics Pty Ltd Chatswood           Address:         Level 18, Tower B, Citadel Tower 799 Pacific Highway           Chatswood         NSW 2067							Order No Report # Phone: Fax:			5 + +	575489 +61 2 9406 1000 +61 2 9406 1002				Nov 30, 2017 5:20 PM Dec 7, 2017 5 Day Jessie Sixsmith		
Pr Pr	oject Name: oject ID:	MERITON W SYDEN2056	ARRIEWOOI 56	0										Eurofins   mgt Analytical Services Manager : Nibha Vaidya			
Sample Detail								Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH					
Melt	oourne Laborato	ory - NATA Site	# 1254 & 142	271			х	х	Х	Х	Х	х					
Syd	ney Laboratory	- NATA Site # 1	8217														
Bris	bane Laborator	y - NATA Site #	20794														
Pert	h Laboratory - N	NATA Site # 237	36			X											
Exte	ernal Laboratory	Original Data	0	<b>BA</b> - Color													
NO	Sample ID	Sample Date	Time	Matrix													
1	TP13_V1	Nov 29, 2017		Soil	M17-De02406	Х											
2	TP13_V2	Nov 29, 2017		Soil	M17-De02407	X											
3	TP13_V3	Nov 29, 2017		Soil	M17-De02408	Х											
4	TP13_V4	Nov 29, 2017		Soil	M17-De02409	X											
5	TP13_V5	Nov 29, 2017		Soil	M17-De02410	Х											
6	TP21_V1	Nov 29, 2017		Soil	M17-De02411	X						$\mid$					
7	TP21_V2	Nov 29, 2017		Soil	M17-De02412	X											
8	TP21_V3	Nov 29, 2017		Soil	M17-De02413	Х											
9         TP21_V4         Nov 29, 2017         Soil         M17-De02414																	

🔅 eurofins 🔤 mgt	ABN– 50 005 085 e.mail : EnviroSa	)85 521 Sales@eurofins.com			Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone : +61 3 8564 5000 NATA # 1261			Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400	<b>Brisbane</b> 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 4600 NATA # 1261 Site # 2079	Perth 2/91 Leach Highway Kewdale WA 6105 0 Phone : +61 8 9251 9600 94 NATA # 1261
Company Name: Coffey Geotechnics Pty Ltd Chatswood	ns.com.au	order N	lo.:	Ite # 12	75 4 0 0	271	NATA # 1261 Site # 18217	Received:	Nov 30, 2017 5:20 PM	
Chatswood NSW 2067	P	Report #: Phone: Fax:		575489 +61 2 9406 1000 +61 2 9406 1002			0 2	Priority: Contact Name:	5 Day Jessie Sixsmith	
Project Name:MERITON WARRIEWOODProject ID:SYDEN205656				rvices Manager : Nibha Vaidya						
Sample Detail		HOLD Asbestos - AS4964	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH			
Melbourne Laboratory - NATA Site # 1254 & 14271		Х	х	х	х	х	х			
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736		X								
10 TP21_V5 Nov 29, 2017 Soil M17	7-De02415	X								
11 IP04_V1 Nov 29, 2017 Soil M17	7-De02416	X	_							
12 TP04_V2 Nov 29, 2017 Soil M17	7-De02417	^ Y								
13 1F04_V3 Nov 29, 2017 Soil M17	7-De02410 7-De02419	x								
15 TP04 V5 Nov 29 2017 Soil M17	7-De02413	x								
16 TP29 0.1-0.2 Nov 29, 2017 Soil	7-De02421	x	X	х	x	х				
17 TP29_0.8-1.0 Nov 29, 2017 Soil M17	7-De02422				x	х				
18 TP30_0.0-0.2 Nov 29, 2017 Soil M17	7-De02423	x	X	х	x	х				
19 TP30_0.5-0.6 Nov 29, 2017 Soil M17	7-De02424	х	Х	Х	Х	Х				
20 QB101 Nov 29, 2017 Soil M17	7-De02425				Х	Х				
21 QR101 Nov 29, 2017 Water M17	7-De02426					Х				

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	UIIIS.CC	JII.au		31	ile # 12	J4 α 14	271		INATA # 1201 Sile # 10217		Sile # 23730			
Company Name:       Coffey Geotechnics Pty Ltd Chatswood         Address:       Level 18, Tower B, Citadel Tower 799 Pacific Highway         Chatswood       NSW 2067					Order No.: Report #: Phone: Fax:			: 575489 +61 2 9406 1000 +61 2 9406 1002				Received:Nov 30, 2017 5:20 PMDue:Dec 7, 2017Priority:5 DayContact Name:Jessie Sixsmith		
Project Name:MERITON WARRIEWOODProject ID:SYDEN205656								ervices Manager : Nibha Vaidya						
	Asbestos - AS4964	НОГЪ	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH							
Melbourne Laborator	y - NATA Site	# 1254 & 14271			х	х	х	Х	х	х	_			
Sydney Laboratory -	NATA Site # 18	217												
Brisbane Laboratory	- NATA Site # 2	20794									_			
Perth Laboratory - NA	TA Site # 2373	36		Х							_			
22 TP32_0.1-0.2	Nov 29, 2017	Soil	M17-De02427	X		X	X	X	X		_			
23 TP32_0.5-0.6	NOV 29, 2017	Soll	M17-De02428	X		×	X	×			-			
25 TP31 1 0-1 1	Nov 29, 2017	Soil	M17-De02429				~	X	X		-			
26 TP33 0.1-0.2	Nov 29, 2017	Soil	M17-De02431	х		х	х	X	X		-			
27 TP33 0.5-0.6	Nov 29, 2017	Soil	M17-De02432	х	1	х	х	х	х		-			
28 TP33_2.3-2.4 M	Nov 29, 2017	Soil	M17-De02433	х		Х	Х	Х	Х		1			
	Nov 29, 2017	Soil	M17-De02434	Х		Х	Х	Х	Х		]			
30 TP34_0.5-0.7 N	Nov 29, 2017	Soil	M17-De02435	Х		Х	Х	Х	Х					
31 TP29_0.5-0.6 N	Nov 29, 2017	Soil	M17-De02436		х									
32 TP30_1.1-1.3 N	Nov 29, 2017	Soil	M17-De02437		х									
33         TP32_0.9-1.1         Nov 29, 2017         Soil         M17-De02438														

ABN- 50 005 08 e.mail : EnviroSi web : www.euro								185 521 Sales@eurofins.com ofins.com.au				vn Close 56 564 5000 271	Sydney         Brisbane         Perth           se         Unit F3, Building F         1/21 Smallwood Place         2/91 Leach Highway           16 Mars Road         Murarrie QLD 4172         Kewdale WA 6105           00         Lane Cove West NSW 2066         Phone : +61 7 3902 4600         Phone : +61 8 9251 9           Phone : +61 2 9900 8400         NATA # 1261 Site # 20794         NATA # 1261           NATA # 1261 Site # 18217         Site # 23736	600
Co Ad Pro	Company Name:       Coffey Geotechnics Pty Ltd Chatswood         Address:       Level 18, Tower B, Citadel Tower 799 Pacific Highway         Chatswood       NSW 2067         Project Name:       MERITON WARRIEWOOD         Project ID:       SYDEN205656						Or Re Ph Fa	der N port # one: x:	<b>0.</b> : #:	5 + +	75489 61 2 9 61 2 9	) 9406 1 9406 1	Received:       Nov 30, 2017 5:20 PM         Due:       Dec 7, 2017         1000       Priority:       5 Day         1002       Contact Name:       Jessie Sixsmith         Eurofins   mgt Analytical Services Manager : Nibha	Vaidya
Sample Detail							HOLD	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH		
Melb	ourne Laborate	ory - NATA Site	# 1254 & 142	71			х	Х	Х	Х	Х	Х		
Sydi	ney Laboratory	- NATA Site # 1	8217										-	
Bris	bane Laborator	y - NATA Site #	20794			V							-	
Perth Laboratory - NATA Site # 23736						X	x			-			4	
35	TP33_1.0-1.2	Nov 29, 2017		Soil	M17-De02439		X						-	
36	TP34 1.0-1.3	Nov 29, 2017		Soil	M17-De02441		x						1	
37	TRIP SPIKE	Nov 29, 2017		Soil	M17-De02442							х	]	
38         TRIP BLANK         Nov 29, 2017         Soil         M17-De02443												х		
Test	Test Counts								11	14	15	2		



#### Internal Quality Control Review and Glossary

#### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.

- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. All biota 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. 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.

mg/L: milligrams per litre

NTU: Nephelometric Turbidity Units

ppm: Parts per million

%: Percentage

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.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### Units

mg/kg: milligrams per kilogram ug/L: micrograms per litre ppb: Parts per billion org/100mL: Organisms per 100 millilitres MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### Terms

1011110	
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	Quality Systems Manual ver 5.1 US Department of Defense
СР	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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

#### **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		1	-	-	
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				-	
втех					
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	< 0.05		0.05	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	ma/ka	< 0.2		0.2	Pass	
Demeton-O	ma/ka	< 0.2		0.2	Pass	
Diazinon	ma/ka	< 0.2		0.2	Pass	
Dichlorvos	ma/ka	< 0.2		0.2	Pass	
Dimethoate	ma/ka	< 0.2		0.2	Pass	
Disulfoton	ma/ka	< 0.2		0.2	Pass	
EPN	ma/ka	< 0.2		0.2	Pass	
Ethion	ma/ka	< 0.2		0.2	Pass	
Ethoprop	ma/ka	< 0.2		0.2	Pass	
Ethyl parathion	ma/ka	< 0.2		0.2	Pass	
Fenitrothion	ma/ka	< 0.2		0.2	Pass	
Fensulfothion	ma/ka	< 0.2		0.2	Pass	
Fenthion	ma/ka	< 0.2		0.2	Pass	
Malathion	ma/ka	< 0.2		0.2	Pass	
Merphos	ma/ka	< 0.2		0.2	Pass	
Methyl parathion	mg/kg	< 0.2		0.2	Pass	
Mevinphos	ma/ka	< 0.2		0.2	Pass	
Monocrotophos	ma/ka	< 2		2	Pass	
Naled	mg/kg	< 0.2		0.2	Pass	
Omethoate	ma/ka	< 2		2	Pass	
Phorate	ma/ka	< 0.2		0.2	Pass	
Pirimiphos-methyl	ma/ka	< 0.2		0.2	Pass	
Pyrazophos	ma/ka	< 0.2		0.2	Pass	
Ronnel	ma/ka	< 0.2		0.2	Pass	
Terbufos	ma/ka	< 0.2		0.2	Pass	
Tetrachlorvinphos	ma/ka	< 0.2		0.2	Pass	
Tokuthion	mg/kg	< 0.2		0.2	Pass	
Trichloronate	ma/ka	< 0.2		0.2	Pass	
Method Blank			•			
Polychlorinated Biphenyls						
Aroclor-1016	mg/kg	< 0.1		0.1	Pass	
Aroclor-1221	mg/ka	< 0.1		0.1	Pass	
Aroclor-1232	mg/kg	< 0.1		0.1	Pass	
Aroclor-1242	mg/kg	< 0.1		0.1	Pass	



Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1248	mg/kg	< 0.1		0.1	Pass	
Aroclor-1254	mg/kg	< 0.1		0.1	Pass	
Aroclor-1260	mg/kg	< 0.1		0.1	Pass	
Total PCB*	mg/kg	< 0.1		0.1	Pass	
Method Blank						
Acid Herbicides						
2.4-D	mg/kg	< 0.5		0.5	Pass	
2.4-DB	mg/kg	< 0.5		0.5	Pass	
2.4.5-T	mg/kg	< 0.5		0.5	Pass	
2.4.5-TP	mg/kg	< 0.5		0.5	Pass	
Actril (loxynil)	mg/kg	< 0.5		0.5	Pass	
Dicamba	mg/kg	< 0.5		0.5	Pass	
Dichlorprop	mg/kg	< 0.5		0.5	Pass	
Dinitro-o-cresol	mg/kg	< 0.5		0.5	Pass	
Dinoseb	mg/kg	< 0.5		0.5	Pass	
МСРА	mg/kg	< 0.5		0.5	Pass	
МСРВ	mg/kg	< 0.5		0.5	Pass	
Месоргор	mg/kg	< 0.5		0.5	Pass	
Method Blank		1	1	1	-	
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		1	1	1		
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene	%	107		70-130	Pass	
Naphthalene	%	103		70-130	Pass	
TRH C6-C10	%	89		70-130	Pass	
TRH C6-C10	%	121		70-130	Pass	
TRH >C10-C16	%	90		70-130	Pass	
LCS - % Recovery		1		1		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					_	
TRH C6-C9	%	96		70-130	Pass	
TRH C10-C14	%	90		70-130	Pass	
LCS - % Recovery		1		1		
BTEX					-	
Benzene	%	97		70-130	Pass	
	%	107		70-130	Pass	
Ethylbenzene	%	114		70-130	Pass	
m&p-Xylenes	%	115		70-130	Pass	
Xylenes - Total	%	114		70-130	Pass	
LUG - % Recovery						
	0/	00		70.400	Dess	
	<u>%</u>	<u>ბ</u> კ		70-130	Pass	
Anthropopo	<u>%</u>	0/		70-130	Pass	
	% 0/	/5		70-130	Pass	
	<u>%</u>	94		70-130	Pass	
	70 0/	00		70-130	Pass	
Denzo(baj)nuoranmene	70	84	I	10-130	rass	



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	%	90	70-130	Pass	
Benzo(k)fluoranthene	%	85	70-130	Pass	
Chrysene	%	79	70-130	Pass	
Dibenz(a,b)anthracene	%	70	70-130	Pass	
Eluoranthene	%	85	70-130	Pass	
Fluorene	%	89	70-130	Pass	
Indeno(1 2 3-cd)pyrene	%	75	70-130	Pass	
Naphthalene	%	91	70-130	Pass	
Phenanthrene	%	98	70-130	Pass	
Pyrene	%	86	70-130	Pass	
I CS - % Recovery	/0	00	10 100	1 400	
Organochlorine Pesticides					
4 4'-DDD	%	123	70-130	Pass	
4 4'-DDF	%	112	70-130	Pass	
4 4'-DDT	%	85	70-130	Pass	
a-BHC	%	101	70-130	Pass	
Aldrin	%	108	70-130	Pass	
h-BHC	%	96	70-130	Pass	
d-BHC	%	99	70-130	Pass	
Dieldrin	%	109	70-130	Pass	
Endosulfan I	%	108	70-130	Pass	
Endosulfan II	%	106	70-130	Pass	
Endosulfan sulphate	%	106	70-130	Pass	
Endrin	%	119	70-130	Pass	
Endrin aldehyde	%	104	70-130	Pass	
Endrin ketone	%	103	70-130	Pass	
g-BHC (Lindape)	%	100	70-130	Pass	
Hentachlor	%	104	70-130	Pass	
	%	107	70-130	Pass	
Hexachlorobenzene	%	97	70-130	Pass	
Methoxychlor	%	72	70-130	Pass	
I CS - % Recovery	/0		10 100	1 400	
Organophosphorus Pesticides					
Diazinon	%	115	70-130	Pass	
Dimethoate	%	85	70-130	Pass	
Ethion	%	110	70-130	Pass	
Eenitrothion	%	79	70-130	Pass	
Methyl parathion	%	71	70-130	Pass	
Mevinphos	%	120	70-130	Pass	
LCS - % Recovery	,.				
Polychlorinated Biphenyls					
Aroclor-1260	%	121	70-130	Pass	
LCS - % Recovery					
Acid Herbicides					
2.4-D	%	103	70-130	Pass	
2.4-DB	%	111	70-130	Pass	
2.4.5-T	%	104	70-130	Pass	
2.4.5-TP	%	89	70-130	Pass	
Actril (loxynil)	%	93	70-130	Pass	
Dicamba	%	104	70-130	Pass	
Dichlorprop	%	93	70-130	Pass	
Dinitro-o-cresol	%	91	70-130	Pass	
Dinoseb	%	96	70-130	Pass	
МСРА	%	107	70-130	Pass	



Test			Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
МСРВ			%	111	70-130	Pass	
Месоргор			%	93	70-130	Pass	
LCS - % Recovery					 •		
Heavy Metals							
Arsenic			%	87	80-120	Pass	
Cadmium			%	97	80-120	Pass	
Chromium			%	86	80-120	Pass	
Copper			%	90	80-120	Pass	
Lead			%	106	80-120	Pass	
Mercury			%	92	75-125	Pass	
Nickel			%	85	80-120	Pass	
Zinc			%	104	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 Fract	ions		Result 1			
TRH >C10-C16	P17-No36606	NCP	%	93	70-130	Pass	
Spike - % Recovery							
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1			
TRH C10-C14	P17-No36606	NCP	%	99	70-130	Pass	
Spike - % Recovery							
Organochlorine Pesticides				Result 1			
4.4'-DDD	M17-De00806	NCP	%	106	70-130	Pass	
4.4'-DDE	M17-De00806	NCP	%	99	70-130	Pass	
4.4'-DDT	M17-De00806	NCP	%	92	70-130	Pass	
a-BHC	M17-De00806	NCP	%	92	70-130	Pass	
Aldrin	M17-De00806	NCP	%	97	70-130	Pass	
b-BHC	M17-De00806	NCP	%	87	70-130	Pass	
d-BHC	M17-De00806	NCP	%	91	70-130	Pass	
Dieldrin	M17-De00806	NCP	%	98	70-130	Pass	
Endosulfan I	M17-De00806	NCP	%	94	70-130	Pass	
Endosulfan II	M17-De00806	NCP	%	96	70-130	Pass	
Endosulfan sulphate	M17-De00806	NCP	%	96	70-130	Pass	
Endrin	M17-De00806	NCP	%	116	70-130	Pass	
Endrin aldehyde	M17-De00806	NCP	%	87	70-130	Pass	
Endrin ketone	M17-De00806	NCP	%	91	70-130	Pass	
g-BHC (Lindane)	M17-De00806	NCP	%	92	70-130	Pass	
Heptachlor	M17-De00806	NCP	%	101	70-130	Pass	
Heptachlor epoxide	M17-De00806	NCP	%	102	70-130	Pass	
Hexachlorobenzene	M17-De00806	NCP	%	91	70-130	Pass	
Methoxychlor	M17-De00806	NCP	%	100	70-130	Pass	
Spike - % Recovery					-		
Organophosphorus Pesticides				Result 1			
Methyl parathion	M17-De02030	NCP	%	72	70-130	Pass	
Spike - % Recovery					 - I		
Heavy Metals				Result 1			
Arsenic	M17-De02422	СР	%	92	75-125	Pass	
Cadmium	M17-De02422	CP	%	92	75-125	Pass	
Chromium	M17-De02422	CP	%	96	75-125	Pass	
Copper	M17-De02422	CP	%	95	75-125	Pass	
Lead	M17-De02422	CP	%	99	75-125	Pass	
Mercury	M17-De02422	CP	%	91	70-130	Pass	
Nickel	M17-De02422	CP	%	93	75-125	Pass	
Zinc	M17-De02422	CP	%	93	75-125	Pass	
Spike - % Recovery							



Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Polychlorinated Biphenyls				Result 1				
Aroclor-1260	M17-De02041	NCP	%	93		70-130	Pass	
Spike - % Recovery				1				
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1				
Naphthalene	M17-De02424	CP	%	90		70-130	Pass	
TRH C6-C10	M17-De02424	СР	%	89		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1				
TRH C6-C9	M17-De02424	CP	%	90		70-130	Pass	
Spike - % Recovery				•				
BTEX				Result 1				
Benzene	M17-De02424	CP	%	86		70-130	Pass	
Toluene	M17-De02424	CP	%	93		70-130	Pass	
Ethylbenzene	M17-De02424	CP	%	100		70-130	Pass	
m&p-Xylenes	M17-De02424	CP	%	101		70-130	Pass	
o-Xylene	M17-De02424	CP	%	101		70-130	Pass	
Xylenes - Total	M17-De02424	CP	%	101		70-130	Pass	
Spike - % Recovery								
Polycyclic Aromatic Hydrocarbons	5			Result 1				
Acenaphthene	M17-De02424	CP	%	97		70-130	Pass	
Acenaphthylene	M17-De02424	CP	%	102		70-130	Pass	
Anthracene	M17-De02424	CP	%	86		70-130	Pass	
Benz(a)anthracene	M17-De02424	CP	%	113		70-130	Pass	
Benzo(a)pyrene	M17-De02424	CP	%	97		70-130	Pass	
Benzo(b&j)fluoranthene	M17-De02424	CP	%	104		70-130	Pass	
Benzo(g.h.i)perylene	M17-De02424	CP	%	102		70-130	Pass	
Benzo(k)fluoranthene	M17-De02424	CP	%	105		70-130	Pass	
Chrysene	M17-De02424	CP	%	98		70-130	Pass	
Dibenz(a.h)anthracene	M17-De02424	CP	%	84		70-130	Pass	
Fluoranthene	M17-De02424	CP	%	111		70-130	Pass	
Fluorene	M17-De02424	CP	%	103		70-130	Pass	
Indeno(1.2.3-cd)pyrene	M17-De02424	CP	%	88		70-130	Pass	
Naphthalene	M17-De02424	CP	%	100		70-130	Pass	
Phenanthrene	M17-De02424	CP	%	116		70-130	Pass	
Pyrene	M17-De02424	CP	%	112		70-130	Pass	
Spike - % Recovery								
Acid Herbicides				Result 1				
2.4-D	M17-De02424	CP	%	96		70-130	Pass	
Actril (loxynil)	M17-De02424	CP	%	90		70-130	Pass	
Dichlorprop	M17-De02424	CP	%	83		70-130	Pass	
МСРА	M17-De02424	CP	%	102		70-130	Pass	
МСРВ	M17-De02424	CP	%	92		70-130	Pass	
Spike - % Recovery								
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1				
TRH >C16-C34	M17-No37037	NCP	%	370		70-130	Fail	Q08
TRH >C34-C40	M17-No37037	NCP	%	65		70-130	Fail	Q08
Spike - % Recovery				1		1		
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1				
Naphthalene	M17-De02430	СР	%	83		70-130	Pass	
TRH C6-C10	M17-De02430	СР	%	111		70-130	Pass	
Spike - % Recovery				1				
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1				
TRH C6-C9	M17-De02430	СР	%	126		70-130	Pass	
Spike - % Recovery								i l



BTEX         MT2-D02240         CP         %         90         70-130         Pass           Tokeren         MT7-D022430         CP         %         90         70-130         Pass           Ethylbenzone         MT7-D022430         CP         %         99         70-130         Pass           Ethylbenzone         MT7-D022430         CP         %         99         70-130         Pass           Dxylenes         MT7-D022430         CP         %         101         70-130         Pass           Organophesphorus Pestcides         CP         %         100         70-130         Pass           Organophesphorus Pestcides         CP         %         96         70-130         Pass           Directocat         MT7-D022430         CP         %         70         70-130         Pass           Ehinon         MT7-D022430         CP         %         71         70-130         Pass           Test         Lab Sample ID         GA         Y         116         70-130         Pass           Codificat         Tobol2421         CP         mg/k         73.7         1.0         30%         70           Deplicate         Result 1	Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code											
Barcame         MT2-062240         CP         %         90         Part 30         Part 30 <th>втех</th> <th>1</th> <th></th> <th></th> <th>Result 1</th> <th></th> <th></th> <th></th> <th></th> <th></th>	втех	1			Result 1																
Toluane         M17-De02430         CP         %         96         70-130         Pass           m8p-Xylenes         M17-De02430         CP         %         99         70-130         Pass           m8p-Xylenes         M17-De02430         CP         %         101         2         70-130         Pass           Sylere - Total         M17-De02430         CP         %         100         70-130         Pass           Sylere - Total         M17-De02430         CP         %         96         70-130         Pass           Organophosphorus Pesticides         Result 1          70-130         Pass         70-130         Pass           Dimethouts         M17-De02430         CP         %         70         70-130         Pass           Ethion         M17-De02430         CP         %         71         70-130         Pass           Test         Lab Sample D         Sore         Vinite         Result 1         Result 1         70-130         Pass           Codmium         M17-De02431         CP         mg/k         116         70-130         Pass         10         30%         Pass         10         30%         Pass         10         30%	Benzene	M17-De02430	CP	%	90			70-130	Pass												
Etypbonzone         M17-0602430         CP         %         99         Port 30         Pass           ox/ylenes         M17-0602430         CP         %         101         Port 30         Pass           ox/ylene         M17-0602430         CP         %         99         Port 30         Pass           Sylene - K         Kecoury         Tort 30         Pass         Port 30         Pass           Organophosphorus Pesticides         M17-0e02430         CP         %         90         Port 30         Pass           Directhoate         M17-0e02430         CP         %         90         Port 30         Pass           Ethion         M17-0e02430         CP         %         70         Port 30         Pass           Fenitribion         M17-0e02430         CP         %         71         Port 30         Pass           Mewinphos         M17-0e02431         CP         %         71         Port 30         Pass           Chromum         M17-0e02421         CP         mgkg         3.7         1.0         30%         Pass           Chromum         M17-0e02421         CP         mgkg         3.7         1.0         30%         Pass         Pass <td>Toluene</td> <td>M17-De02430</td> <td>СР</td> <td>%</td> <td>96</td> <td></td> <td></td> <td>70-130</td> <td>Pass</td> <td></td>	Toluene	M17-De02430	СР	%	96			70-130	Pass												
mkp-Xylenes         M17-De02430         CP         %         101         No         No         70-130         Pass           Sylene - Stral         M17-De02430         CP         %         99         No         70-130         Pass           Sylene - Stral         M17-De02430         CP         %         98         No         70-130         Pass           Dazinon         M17-De02430         CP         %         98         No         70-130         Pass           Diazinon         M17-De02430         CP         %         87         No         70-130         Pass           Ention         M17-De02430         CP         %         87         No         70-130         Pass           Ention         M17-De02430         CP         %         87         70-130         Pass           Test         Lab Sample D         On         Wint         Result 1         Result 2         70-130         Pass           Arsenic         M17-De02430         CP         %         87         71         0         70-330         Pass           Cadmium         M17-De02421         CP         mg/kg         3.7         71         0.7         70         70	Ethylbenzene	M17-De02430	CP	%	99			70-130	Pass												
or.Xykneas         IMT-De02430         CP         %         99         //         70130         Pass           Spike-% Recovery         70130         Pass         70130         Pass         70130         Pass           Organophosphorus Pesticides         //         Result 1          70130         Pass           Dimethodate         M17-De02430         CP         %         96         70130         Pass           Enhion         M17-De02430         CP         %         70          70130         Pass           Fenitorbion         M17-De02430         CP         %         71          70130         Pass           Mexinphos         M17-De02430         CP         %         716         70130         Pass           Mexinphos         M17-De02421         CP         %         711          70130         Pass           Cadmium         M17-De02421         CP         mgkg         3.7         3.7         1.0         30%         Pass           Cadmium         M17-De02421         CP         mgkg         4.0         4.0         3.0         30%         Pass           Cadmium         M17-De02421         CP	m&p-Xylenes	M17-De02430	CP	%	101			70-130	Pass												
XyenesM17.De02430CP%100100%70.130PassSpike - % RecoveryResult 170.130PassOrganophosphorus PesticidesM17.De02430CP%9670.130PassDiazinonM17.De02430CP%9770.70.130PassEthionM17.De02430CP%71.170.130PassEthionM17.De02430CP%71.170.130PassTestLab Sample DOn SourceWithResult 1Result 1Result 2RPDCollDepticateTestM17.De02421CPmg/k3.73.71.030%PassCollCadmiumM17.De02421CPmg/k2.83.31.630%PassCollChoronumM17.De02421CPmg/k2.83.31.630%PassCollCopperM17.De02421CPmg/k2.83.31.630%PassCollChoronumM17.De02421CPmg/k2.83.31.630%PassCollChoronumM17.De02421CPmg/k2.83.31.630%PassCollChoronumM17.De02421CPmg/k2.82.03.030%PassCollChoronumM17.De02421CPmg/k2.82.03.0<	o-Xylene	M17-De02430	CP	%	99			70-130	Pass												
Spike - % Recovery         Network         Result 1         Network         Network           Dizarinon         M17-De02430         CP         %         98          70-130         Pass           Dinorhoale         M17-De02430         CP         %         70         70-130         Pass           Ethion         M17-De02430         CP         %         70          70-130         Pass           Mevinphos         M17-De02430         CP         %         71          70-130         Pass           Mevinphos         M17-De02430         CP         %         71          70-130         Pass           Duplicate          Kesult 1         Result 1         Result 2         Result 2         Result 2         Result 2         Result 2         Result 3         Result 2         Result 3         Result 3         Result 4         10         Pass         Cambinum         M17-De02421         CP         mg/kg         2.8         3.3         16         30%         Pass           Copper         M17-De02421         CP         mg/kg         4.8         2.0         30%         Pass           Incentum         M17-De02421         CP         m	Xylenes - Total	M17-De02430	CP	%	100			70-130	Pass												
Organophosphorus Pesticides         MT-De02430         CP         %         86         Image: Constraint of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec	Spike - % Recovery																				
Diazinon         M17-De02430         CP         %         70          70-130         Pass           Ethion         M17-De02430         CP         %         70          70-130         Pass           Ethion         M17-De02430         CP         %         71          70-130         Pass           Reintrothion         M17-De02430         CP         %         116          70-130         Pass           Test         Lab Sample ID         Source         With         Result I         70-130         Pass         Outlifying           Duplicate          Feest         Lab Sample ID         Source         Not.         Result I         Result I         Result I         80%         Pass         Commins         Pass         Commins         Pass         Commins         M17-De02421         CP         mg/kg         2.0         3.0         1.6         30%         Pass         Commins         M17-De02421         CP         mg/kg         2.01         <1	Organophosphorus Pesticides				Result 1																
Dimethodate         M17-De02430         CP         %         70         Image of the state o	Diazinon	M17-De02430	CP	%	96			70-130	Pass												
Ethion         M17-De02430         CP         %         71         Image: Control of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the sta	Dimethoate	M17-De02430	CP	%	70			70-130	Pass												
Fentrohion         M17-De02430         CP         %         71         Total         70-130         Pass           Mevinphos         M17-De02430         CP         %         116         Total         Pass         Pass           Test         Lab Sample ID         OA Assenic         Units         Result 1         Result 2         PD         Code           Assenic         M17-De02421         CP         mg/kg         3.7         3.7         1.0         30%         Pass           Cadmium         M17-De02421         CP         mg/kg         2.0         3.0         30%         Pass           Copper         M17-De02421         CP         mg/kg         2.0         3.0         30%         Pass           Laad         M17-De02421         CP         mg/kg         2.0         3.0         30%         Pass           Mercury         M17-De02421         CP         mg/kg         2.1         2.0         30%         Pass           Laad         M17-De02421         CP         mg/kg         4.6         4.6         2.0         30%         Pass           Cadmium         M17-De02422         CP         mg/kg         2.1         2.2         30% <th< td=""><td>Ethion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>87</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></th<>	Ethion	M17-De02430	CP	%	87			70-130	Pass												
Mevinphos         M17-De02430         CP         %         116         Total         Pass           Test         Lab Sample ID         Qass         Units         Result 1         Result 2         RPD         Lumits         Califying Code           Duplicate         M17-De02421         CP         mg/kg         3.7         3.7         1.0         30%         Pass           Cadmium         M17-De02421         CP         mg/kg         0.4         <<.4	30%         Pass           Coronium         M17-De02421         CP         mg/kg         0.4         < <td>&lt;<td>&lt;<td>30%         Pass           Copper         M17-De02421         CP         mg/kg         0.0         9.3         3.0         30%         Pass           Laad         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>&lt;<td>&lt;<td>&lt;<td>30%         Pass           Nickal         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td><td>Fenitrothion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>71</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></td></td></td></td></td></td></td></td></td>	< <td>&lt;<td>30%         Pass           Copper         M17-De02421         CP         mg/kg         0.0         9.3         3.0         30%         Pass           Laad         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>&lt;<td>&lt;<td>&lt;<td>30%         Pass           Nickal         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td><td>Fenitrothion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>71</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></td></td></td></td></td></td></td></td>	< <td>30%         Pass           Copper         M17-De02421         CP         mg/kg         0.0         9.3         3.0         30%         Pass           Laad         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>&lt;<td>&lt;<td>&lt;<td>30%         Pass           Nickal         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td><td>Fenitrothion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>71</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></td></td></td></td></td></td></td>	30%         Pass           Copper         M17-De02421         CP         mg/kg         0.0         9.3         3.0         30%         Pass           Laad         M17-De02421         CP         mg/kg         < <td>&lt;<td>&lt;<td>&lt;<td>&lt;<td>30%         Pass           Nickal         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td><td>Fenitrothion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>71</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></td></td></td></td></td></td>	< <td>&lt;<td>&lt;<td>&lt;<td>30%         Pass           Nickal         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td><td>Fenitrothion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>71</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></td></td></td></td></td>	< <td>&lt;<td>&lt;<td>30%         Pass           Nickal         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td><td>Fenitrothion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>71</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></td></td></td></td>	< <td>&lt;<td>30%         Pass           Nickal         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td><td>Fenitrothion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>71</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></td></td></td>	< <td>30%         Pass           Nickal         M17-De02421         CP         mg/kg         &lt;<td>&lt;<td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td><td>Fenitrothion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>71</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></td></td>	30%         Pass           Nickal         M17-De02421         CP         mg/kg         < <td>&lt;<td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td><td>Fenitrothion</td><td>M17-De02430</td><td>CP</td><td>%</td><td>71</td><td></td><td></td><td>70-130</td><td>Pass</td><td></td></td>	< <td>30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium</td> <td>Fenitrothion</td> <td>M17-De02430</td> <td>CP</td> <td>%</td> <td>71</td> <td></td> <td></td> <td>70-130</td> <td>Pass</td> <td></td>	30%         Pass           Laad         M17-De02421         CP         mg/kg         30%         Pass           Copper         M17-De02422         CP         mg/kg         30%         Pass           Cadmium	Fenitrothion	M17-De02430	CP	%	71			70-130	Pass	
Test         Lab Sample ID         Surce         Units         Result 1         Image         Acceptance Particity         Dualifying           Duplicate	Mevinphos	M17-De02430	CP	%	116			70-130	Pass												
Duplicate         Result 1         Result 2         RPD         Ansenic           Arsenic         M17-De02421         CP         mg/kg         3.7         3.7         1.0         30%         Pass           Cadmium         M17-De02421         CP         mg/kg         <.0.4	Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code											
Heavy Metals         Result 1         Result 2         RPD         Image: constraint of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	Duplicate				1																
Arsenic         M17-De02421         CP         mg/kg         3.7         3.7         1.0         30%         Pass           Cadmium         M17-De02421         CP         mg/kg         <0.4	Heavy Metals	1			Result 1	Result 2	RPD														
Cadmium         M17-De02421         CP         mg/kg         <0.4         <0.4         <1         30%         Pass           Chromium         M17-De02421         CP         mg/kg         28         33         16         30%         Pass           Copper         M17-De02421         CP         mg/kg         9.0         9.3         3.0         30%         Pass           Lead         M17-De02421         CP         mg/kg         <0.1	Arsenic	M17-De02421	CP	mg/kg	3.7	3.7	1.0	30%	Pass												
Chromium         M17-De02421         CP         mg/kq         9.0         9.3         3.0         30%         Pass           Copper         M17-De02421         CP         mg/kg         2.2         2.1         30%         Pass           Mercury         M17-De02421         CP         mg/kg         2.0         2.2         3.0%         Pass           Nickel         M17-De02421         CP         mg/kg         4.0.1         <1	Cadmium	M17-De02421	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass												
Copper         M17-De02421         CP         mg/kg         9.0         9.3         3.0         30%         Pass           Lead         M17-De02421         CP         mg/kg         2.2         2.2         <1	Chromium	M17-De02421	CP	mg/kg	28	33	16	30%	Pass												
Lead         M17-De02421         CP         mg/kg         22         22         2.1         3.0%         Pass           Mercury         M17-De02421         CP         mg/kg         <0.1	Copper	M17-De02421	CP	mg/kg	9.0	9.3	3.0	30%	Pass												
Mercury         M17-De02421         CP         mg/kg         < 0.1         < 0.1         < 1         30%         Pass           Nickel         M17-De02421         CP         mg/kg         11         12         7.0         30%         Pass           Duplicate         mg/kg         46         45         2.0         30%         Pass           Heavy Metals         M17-De02422         CP         mg/kg         < 0.4	Lead	M17-De02421	CP	mg/kg	22	22	<1	30%	Pass												
Nickel         M17-De02421         CP         mg/kg         11         12         7.0         30%         Pass           Zinc         M17-De02421         CP         mg/kg         46         45         2.0         30%         Pass           Duplicate          Result 1         Result 2         RPD             Arsenic         M17-De02422         CP         mg/kg         5.8         6.0         2.0         30%         Pass           Chomium         M17-De02422         CP         mg/kg         6.4         <0.4	Mercury	M17-De02421	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass												
Zinc         M17-De02421         CP         mg/kg         46         45         2.0         30%         Pass           Duplicate	Nickel	M17-De02421	CP	mg/kg	11	12	7.0	30%	Pass												
Duplicate           Heavy Metals         Karsenic         M17-De02422         CP         mg/kg         5.8         6.0         2.0         30%         Pass           Cadmium         M17-De02422         CP         mg/kg         <0.4	Zinc	M17-De02421	CP	mg/kg	46	45	2.0	30%	Pass												
Heavy Metais         Result 1         Result 2         RPD         Marce           Arsenic         M17-De02422         CP         mg/kg         5.8         6.0         2.0         30%         Pass           Cadmium         M17-De02422         CP         mg/kg         0.4         <0.4	Duplicate							1													
Arsenic         M17-De02422         CP         mg/kg         5.8         6.0         2.0         30%         Pass           Cadmium         M17-De02422         CP         mg/kg         < 0.4	Heavy Metals	I			Result 1	Result 2	RPD														
Cadmium         M17-De02422         CP         mg/kg         < 0.4         < 0.4         < 1         30%         Pass           Chromium         M17-De02422         CP         mg/kg         21         22         3.0         30%         Pass           Copper         M17-De02422         CP         mg/kg         19         19         2.0         30%         Pass           Lead         M17-De02422         CP         mg/kg         < 0.1	Arsenic	M17-De02422	CP	mg/kg	5.8	6.0	2.0	30%	Pass												
Chronium         M17-De02422         CP         mg/kg         21         22         3.0         30%         Pass           Copper         M17-De02422         CP         mg/kg         <5	Cadmium	M17-De02422	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass												
Copper         M17-De02422         CP         mg/kg         <5         <5         <1         30%         Pass           Lead         M17-De02422         CP         mg/kg         19         19         2.0         30%         Pass           Mercury         M17-De02422         CP         mg/kg         <0.1	Chromium	M17-De02422	CP	mg/kg	21	22	3.0	30%	Pass												
Lead         M17-De02422         CP         mg/kg         19         19         19         2.0         30%         Pass           Mercury         M17-De02422         CP         mg/kg         <0.1	Copper	M17-De02422	CP	mg/kg	< 5	< 5	<1	30%	Pass												
Mercury         M17-De02422         CP         mg/kg         < 0.1         < 1         30%         Pass           Nickel         M17-De02422         CP         mg/kg         < 5	Lead	M17-De02422	CP	mg/kg	19	19	2.0	30%	Pass												
Nickel         M17-De02422         CP         mg/kg         < 5         < 5         < 1         30%         Pass           Zinc         M17-De02422         CP         mg/kg         5.3         5.5         3.0         30%         Pass           Duplicate         Transport         S.3         5.5         3.0         30%         Pass           Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Result 1         Result 2         RPD             Naphthalene         M17-De02423         CP         mg/kg         < 0.5	Mercury	M17-De02422	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass												
Zinc         M17-De02422         CP         mg/kg         5.3         5.5         3.0         30%         Pass           Duplicate         Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Result 1         Result 2         RPD         Image: Constraint of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	Nickel	M17-De02422	CP	mg/kg	< 5	< 5	<1	30%	Pass												
Duplicate           Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Result 1         Result 2         RPD         Image: Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6"Colspan="6">Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Cols	Zinc	M17-De02422	CP	mg/kg	5.3	5.5	3.0	30%	Pass												
Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Result 1         Result 2         RPD         Image: Constraint 1	Duplicate																				
Naphthalene         M17-De02423         CP         mg/kg         <0.5         <1         30%         Pass           TRH C6-C10         M17-De02423         CP         mg/kg         <20	I otal Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD	0.001	Dees												
TRH C6-C10         M17-De02423         CP         mg/kg         < 20         < 20         < 1         30%         Pass           TRH >C10-C16         M17-De02423         CP         mg/kg         < 50		M17-De02423		mg/kg	< 0.5	< 0.5	<1	30%	Pass												
IRR >C10-C16         M17-De02423         CP         Mg/kg         < 30         < 30%         Pass           TRH >C16-C34         M17-De02423         CP         mg/kg         110         < 100		M17-De02423		mg/kg	< 20	< 20	<1	30%	Pass												
TRH >C16-C34         M17-De02423         CP         Mg/kg         110         < 100         64         30%         Pail         Q15           TRH >C34-C40         M17-De02423         CP         mg/kg         130         < 100		M17-De02423		mg/kg	< 50	< 50	<1	30%	Pass	015											
TRH 3634-040         M17-De02423         CP         Ing/kg         130         < 100         433         30%         Pail         Q13           Duplicate         Total Recoverable Hydrocarbons - 1999 NEPM Fractions         Result 1         Result 2         RPD	TRH > C10-C34	M17-De02423		mg/kg	120	< 100	04 42	30%	Fail	015											
Total Recoverable Hydrocarbons - 1999 NEPM Fractions         Result 1         Result 2         RPD         Image: Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6">Colspan="6"Colspan="6">Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colspan="6"Colsp	Duplicato	WIT7-De02423		nig/kg	130	< 100	43	30%	Fall	QID											
TRH C6-C9       M17-De02423       CP       mg/kg       < 20       < 20       < 1       30%       Pass         TRH C10-C14       M17-De02423       CP       mg/kg       < 20	Total Pacavarable Hydrocarbons	1000 NEPM Eract	ione		Bocult 1	Pocult 2	PDD														
INTr-De02423       Crimity of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might general stress of the might genera				ma/ka				30%	Pass												
Introduction         Implicities	TRH C10-C14	M17-De02423	CP	ma/ka	< 20	< 20		30%	Pass												
Introductor         Minh Deco2423         Or         Inighting         Color         Color <thcolor< th="">         Color         Color<td>TRH C15-C28</td><td>M17-De02423</td><td>CP</td><td>ma/ka</td><td>&lt; 50</td><td>&lt; 50</td><td></td><td>30%</td><td>Pass</td><td></td></thcolor<>	TRH C15-C28	M17-De02423	CP	ma/ka	< 50	< 50		30%	Pass												
Duplicate         Result 1         Result 2         RPD         Image: Constraint of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the	TRH C29-C36	M17-De02423	CP	ma/ka	100	61	50	30%	Fail	015											
BTEX         Result 1         Result 2         RPD         Image: Constraint of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state	Duplicate				100		00	0070		3410											
Benzene         M17-De02423         CP         mg/kg         < 0.1         < 1         30%         Pass           Toluene         M17-De02423         CP         mg/kg         < 0.1	BTEX				Result 1	Result 2	RPD														
Toluene         M17-De02423         CP         mg/kg         < 0.1         < 1         30%         Pass           Ethylbenzene         M17-De02423         CP         mg/kg         < 0.1	Benzene	M17-De02423	CP	ma/ka	< 0.1	< 0.1	<1	30%	Pass												
Ethylbenzene         M17-De02423         CP         mg/kg         < 0.1         < 1         30%         Pass           m&p-Xylenes         M17-De02423         CP         mg/kg         < 0.2	Toluene	M17-De02423	CP	ma/ka	< 0.1	< 0.1	<1	30%	Pass												
m&p-Xylenes M17-De02423 CP mg/kg < 0.2 < 0.2 <1 30% Pass	Ethylbenzene	M17-De02423	CP	ma/ka	< 0.1	< 0.1	<1	30%	Pass												
	m&p-Xylenes	M17-De02423	СР	mg/ka	< 0.2	< 0.2	<1	30%	Pass												



Duplicate									
BTEX				Result 1	Result 2	RPD			
o-Xylene	M17-De02423	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	M17-De02423	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons	5			Result 1	Result 2	RPD			
Acenaphthene	M17-De02423	СР	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	M17-De02423	СР	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	M17-De02423	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	M17-De02423	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	M17-De02423	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	



Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Tokuthion	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	M17-De02423	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Acid Herbicides				Result 1	Result 2	RPD			
2.4-D	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-DB	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-T	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-TP	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Actril (loxynil)	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dicamba	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorprop	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dinitro-o-cresol	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dinoseb	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
МСРА	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
МСРВ	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Месоргор	M17-De02423	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M17-De02428	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M17-De02428	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M17-De02428	CP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate				1	1			1	
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M17-De02428	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M17-De02428	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M17-De02428	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M17-De02428	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M17-De02428	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M17-De02428	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M17-De02428	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M17-De02428	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
Naphthalene	M17-De02429	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M17-De02429	CP	mg/kg	< 20	< 20	<1	30%	Pass	



Duplicate	Duplicate							
Total Recoverable Hydrocarbons - 1999 NEPM	Fractions		Result 1	Result 2	RPD			
TRH C6-C9 M17-De02	429 CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate								
BTEX			Result 1	Result 2	RPD			
Benzene M17-De02	429 CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene M17-De02	429 CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene M17-De02	429 CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene M17-De02	429 CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total M17-De02	429 CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate								
Polycyclic Aromatic Hydrocarbons			Result 1	Result 2	RPD			
Acenaphthene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene M17-De02	429 CP	mg/kg	0.8	0.6	21	30%	Pass	
Benzo(b&j)fluoranthene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene M17-De02	429 CP	mg/kg	0.5	< 0.5	9.0	30%	Pass	
Benzo(k)fluoranthene M17-De02	429 CP	mg/kg	0.6	< 0.5	51	30%	Fail	Q15
Chrysene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene M17-De02	429 CP	mg/kg	1.1	1.0	11	30%	Pass	
Fluorene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene M17-De02	429 CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene M17-De02	429 CP	mg/kg	0.5	0.6	17	30%	Pass	
Pyrene M17-De02	429 CP	mg/kg	1.0	1.0	3.0	30%	Pass	
Duplicate						•		
Organophosphorus Pesticides			Result 1	Result 2	RPD			
Azinphos-methyl M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos M17-De02	429 CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion M17-De02	429 CP	ma/ka	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion M17-De02	429 CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion M17-De02	429 CP	ma/ka	< 0.2	< 0.2	<1	30%	Pass	
Malathion M17-De02	429 CP	ma/ka	< 0.2	< 0.2	<1	30%	Pass	
Merphos M17-De02	429 CP	ma/ka	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion M17-De02	429 CP	ma/ka	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos M17-De02	429 CP	ma/ka	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos M17-De02	429 CP	ma/ka	< 2	< 2	<1	30%	Pass	
Naled M17-De02	429 CP	ma/ka	< 0.2	< 0.2	<1	30%	Pass	



Duplicate									
Organophosphorus Pesticides		Result 1	Result 2	RPD					
Omethoate	M17-De02429	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	M17-De02429	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	M17-De02429	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	M17-De02429	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	M17-De02429	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	M17-De02429	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	M17-De02429	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	M17-De02429	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	M17-De02429	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M17-De02430	CP	%	13	12	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
Comments	

### **Qualifier Codes/Comments**

Code	Description
G01	The LORs have been raised due to matrix interference
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
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
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC
Q15	The RPD reported passes Eurofins   mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

### Authorised By

Nibha Vaidya	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Alex Petridis	Senior Analyst-Organic (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)
Matthew Deaves	Senior Analyst-Asbestos (WA)
Rhys Thomas	Senior Analyst-Asbestos (WA)

### Glenn Jackson National Operations 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

Coffey Geotechnics Pty Ltd Chatswood Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067





NATA Accredited Accreditation Number 1261 Site Number 1254

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:

Jessie Sixsmith

Report Project name Project ID Received Date 575489-W MERITON WARRIEWOOD SYDEN205656 Nov 30, 2017

	1	*	
Client Sample ID			QR101
Sample Matrix			Water
Eurofins   mgt Sample No.			M17-De02426
Date Sampled			Nov 29, 2017
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons - 1999 NEPM Frac	tions		
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 C10-36 (Total)	0.1	mg/L	< 0.1
втех			
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	%	78
Total Recoverable Hydrocarbons - 2013 NEPM Frac	tions		
Naphthalene <sup>N02</sup>	0.01	mg/L	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02
TRH C6-C10 less BTEX (F1) <sup>N04</sup>	0.02	mg/L	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05
TRH >C10-C16 less Naphthalene (F2) <sup>N01</sup>	0.05	mg/L	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1
Polycyclic Aromatic Hydrocarbons			
Acenaphthene	0.001	mg/L	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001
Anthracene	0.001	mg/L	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001
Benzo(b&j)fluoranthene <sup>N07</sup>	0.001	mg/L	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001
Chrysene	0.001	mg/L	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001
Fluoranthene	0.001	mg/L	< 0.001
Fluorene	0.001	mg/L	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001



Client Sample ID			QR101
Sample Matrix			Water
Eurofins I mot Sample No.			M17-De02426
Date Sampled			Nov 29, 2017
		1.1	1107 29, 2017
Test/Reference	LOR	Unit	
	0.004	4	0.004
Naphthalene	0.001	mg/L	< 0.001
Phenanthrene	0.001	mg/L	< 0.001
Pyrene	0.001	mg/L	< 0.001
	0.001	mg/L	< 0.001
2-Fluorobiphenyl (surr.)	1	%	58
p-Terphenyl-d14 (surr.)	1	%	86
Organochlorine Pesticides	1		
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
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	%	78
Tetrachloro-m-xylene (surr.)	1	%	112
Organophosphorus Pesticides	1		
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



Client Sample ID Sample Matrix Eurofins   mgt Sample No.			QR101 Water M17-De02426
Date Sampled			Nov 29, 2017
Test/Reference	LOR	Unit	
Organophosphorus Pesticides			
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
Trichloronate	0.002	mg/L	< 0.002
Triphenylphosphate (surr.)	1	%	67
Heavy Metals			
Arsenic	0.001	mg/L	< 0.001
Cadmium	0.0002	mg/L	< 0.0002
Chromium	0.001	mg/L	< 0.001
Copper	0.001	mg/L	< 0.001
Lead	0.001	mg/L	< 0.001
Mercury	0.0001	mg/L	< 0.0001
Nickel	0.001	mg/L	< 0.001
Zinc	0.005	mg/L	< 0.005



### 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 (regarding both quality and NATA accreditation).

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	Melbourne	Dec 05, 2017	7 Day
- Method: LTM-ORG-2010 TRH C6-C36			
BTEX	Melbourne	Dec 04, 2017	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 04, 2017	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Eurofins   mgt Suite B10			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Dec 05, 2017	7 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Dec 05, 2017	7 Day
- Method: LTM-ORG-2130 PAH and Phenols in Water by GCMS			
Organochlorine Pesticides	Melbourne	Dec 05, 2017	7 Day
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Melbourne	Dec 05, 2017	7 Day
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Metals M8	Melbourne	Dec 02, 2017	28 Days
- Method: LTM-MET-3040 Metals in Waters by ICP-MS			

ABN- 50 005 085 e.mail : EnviroSal web : www.eurofin						)85 521 Sales@eurofins.com rofins.com.au				Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone : +61 3 8564 5000 NATA # 1261 Site # 1254 & 14271			9	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1261 Site # 18217	<b>Brisbane</b> 1/21 Smallwood Place Murarie QLD 4172 Phone : +61 7 3902 460 NATA # 1261 Site # 207	Perth           2/91 Leach Highway           Kewdale WA 6105           00         Phone : +61 8 9251 9600           '94         NATA # 1261           Site # 23736
Company Name:         Coffey Geotechnics Pty Ltd Chatswood           Address:         Level 18, Tower B, Citadel Tower 799 Pacific Highway           Chatswood         NSW 2067							Order No.: Report #: Phone: Fax:				: 575489 +61 2 9406 1000 +61 2 9406 1002				Received: Due: Priority: Contact Name:	Nov 30, 2017 5:20 PM Dec 7, 2017 5 Day Jessie Sixsmith
Project Name:         MERITON WARRIEWOOD           Project ID:         SYDEN205656														Eurofins   mgt Analytical Services Manager : Nibha Vaidya		
Sample Detail					Asbestos - AS4964	HOLD	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH					
Melt	oourne Laborato	ory - NATA Site	# 1254 & 142	271			х	х	Х	Х	Х	х				
Syd	ney Laboratory	- NATA Site # 1	8217													
Bris	bane Laborator	y - NATA Site #	20794													
Pert	h Laboratory - N	NATA Site # 237	36			X										
Exte	ernal Laboratory	Original Data	0	<b>B4</b> - fortune												
NO	Sample ID	Sample Date	Time	Matrix												
1	TP13_V1	Nov 29, 2017		Soil	M17-De02406	Х										
2	TP13_V2	Nov 29, 2017		Soil	M17-De02407	Х										
3	TP13_V3	Nov 29, 2017		Soil	M17-De02408	Х										
4	TP13_V4	Nov 29, 2017		Soil	M17-De02409	X										
5	TP13_V5	Nov 29, 2017		Soil	M17-De02410	Х										
6	TP21_V1	Nov 29, 2017		Soil	M17-De02411	X						$\mid$				
7	TP21_V2	Nov 29, 2017		Soil	M17-De02412	X										
8	TP21_V3	Nov 29, 2017		Soil	M17-De02413	Х										
9	TP21_V4	Nov 29, 2017		Soil	M17-De02414	Х										

eurofins mgt ABN- 50 005 084 e.mail : EnviroSa						85 521 ales@eurofins.com			10 ston Tov VIC 310 +61 3 85 1261	vn Close 36 364 5000	Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone: +61 2 9900 8400 NDT # 1061 Store # 19117	<b>Brisbane</b> 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 460 NATA # 1261 Site # 207	Perth 2/91 Leach Highway Kewdale WA 6105 00 Phone : +61 8 9251 9600 794 NATA # 1261
web. www.edu						dor N	<u> </u>	ile # 12	J4 & 14	271	NATA # 1201 Old # 10217	Pacaivad	Site # 23730
Address:	Address: Level 18, Tower B, Citadel Tower 799 Pacific Highway Chatswood NSW 2067						¢ ¢:	575489 +61 2 9406 1000 +61 2 9406 1002			00 02	Due: Priority: Contact Name:	Dec 7, 2017 5 Day Jessie Sixsmith
Project Name: Project ID:					1			Eurofir	ns   mgt Analytical Se	ervices Manager : Nibha Vaidya			
Sample Detail						Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH			
Melbourne Laborator	y - NATA Site	# 1254 & 14271			х	Х	Х	х	Х	Х			
Sydney Laboratory -	NATA Site # 1	8217											
Brisbane Laboratory	- NATA Site #	20794											
Perth Laboratory - NA	ATA Site # 237	36		Х									
10 TP21_V5	Nov 29, 2017	Soil	M17-De02415	X									
11 IP04_V1	Nov 29, 2017	Soil	M17-De02416	X									
12 1P04_V2 1	NOV 29, 2017	50ll	M17-De02417	X					<u> </u>				
13 TP04_V3 1	Nov 29, 2017	Soil	M17-De02418	X									
15 TP04 V5	Nov 29, 2017	Soil	M17-De02419 M17-De02420	X									
16 TP29 0.1-0.2	Nov 29, 2017	Soil	M17-De02421	X		х	х	x	х				
17 TP29 0.8-1.0	Nov 29, 2017	Soil	M17-De02422					X	X				
18 TP30 0.0-0.2	Nov 29, 2017	Soil	M17-De02423	х		X	Х	х	x				
19 TP30_0.5-0.6	Nov 29, 2017	Soil	M17-De02424	х		х	Х	Х	х				
20 QB101 I	Nov 29, 2017	Soil	M17-De02425					х	Х				
21 QR101 I	Nov 29, 2017	Water	M17-De02426						Х				

eurofins mgt ABN- 50 005 088 e.mail : EnviroSal						35 521 ales@eurofins.com			Melbourne 2-5 Kingston Town Close Oakleigh VIC 3166 Phone : +61 3 8564 5000 NATA # 1261			Sydney Unit F3, Building F 16 Mars Road Lane Cove West NSW 2066 Phone : +61 2 9900 8400 NATA # 1924 Size 4 9217	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 Phone : +61 7 3902 46( NATA # 1261 Site # 20	Perth 2/91 Leach Highway Kewdale WA 6105 00 Phone : +61 8 9251 9600 794 NATA # 1261
	UIIIS.CC	JII.au		31	ile # 12	J4 α 14	271		INATA # 1201 Sile # 10217		Site # 23730			
Company Name: Address:	Order No.: Report #: Phone: Fax:				: 575489 +61 2 9406 1000 +61 2 9406 1002			1000 1002		Nov 30, 2017 5:20 PM Dec 7, 2017 5 Day Jessie Sixsmith				
Project Name: Project ID:						-		_	Eurofir	ns   mgt Analytical Se	ervices Manager : Nibha Vaidya			
Sample Detail						Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH				
Melbourne Laborator	y - NATA Site	# 1254 & 14271			х	х	х	Х	х	х	_			
Sydney Laboratory -	NATA Site # 18	217												
Brisbane Laboratory	- NATA Site # 2	20794									_			
Perth Laboratory - NA	TA Site # 2373	36		Х							_			
22 TP32_0.1-0.2	Nov 29, 2017	Soil	M17-De02427	X		X	X	X	X		_			
23 TP32_0.5-0.6	NOV 29, 2017	Soll	M17-De02428	X		×	X	×			-			
25 TP31 1 0-1 1	Nov 29, 2017	Soil	M17-De02429	~		~	~	X	X		-			
26 TP33 0 1-0 2	Nov 29, 2017	Soil	M17-De02430	x		x	х	x	X		-			
27 TP33 0.5-0.6	Nov 29, 2017	Soil	M17-De02432	X		X	X	X	X					
28 TP33_2.3-2.4	Nov 29, 2017	Soil	M17-De02433	х		х	х	Х	х		1			
	Nov 29, 2017	Soil	M17-De02434	х		Х	х	Х	Х		]			
30 TP34_0.5-0.7 N	Nov 29, 2017	Soil	M17-De02435	Х		Х	Х	Х	Х					
31 TP29_0.5-0.6 N	Nov 29, 2017	Soil	M17-De02436		Х									
32 TP30_1.1-1.3 N	Nov 29, 2017	Soil	M17-De02437		х									
33 TP32_0.9-1.1	Nov 29, 2017	Soil	M17-De02438		Х									

	🔅 eur	ofins	mgt		ABN- 50 005 ( e.mail : Enviro web : www.eur	085 521 Sales@ ofins.co	eurofins om.au	s.com	N 2 O P N S	leibourr -5 Kings bakleigh hone : IATA # ite # 12	ne ston Tov VIC 310 +61 3 85 1261 54 & 14	vn Close 56 564 5000 271	Sydney         Brisbane         Perth           se         Unit F3, Building F         1/21 Smallwood Place         2/91 Leach Highway           16 Mars Road         Murarrie QLD 4172         Kewdale WA 6105           00         Lane Cove West NSW 2066         Phone : +61 7 3902 4600         Phone : +61 8 9251 9           Phone : +61 2 9900 8400         NATA # 1261 Site # 20794         NATA # 1261           NATA # 1261 Site # 18217         Site # 23736	300
Company Name:       Coffey Geotechnics Pty Ltd Chatswood         Address:       Level 18, Tower B, Citadel Tower 799 Pacific Highway         Chatswood       NSW 2067         Project Name:       MERITON WARRIEWOOD         Project ID:       SYDEN205656							Or Re Ph Fa	der N port # one: x:	<b>0.</b> : #:	5 + +	75489 61 2 9 61 2 9	) 9406 1 9406 1	Received:       Nov 30, 2017 5:20 PM         Due:       Dec 7, 2017         1000       Priority:       5 Day         1002       Contact Name:       Jessie Sixsmith         Eurofins   mgt Analytical Services Manager : Nibha	Vaidya
Sample Detail						Asbestos - AS4964	HOLD	Polychlorinated Biphenyls	Acid Herbicides	Moisture Set	Eurofins   mgt Suite B10	BTEXN and Volatile TRH		
Melb	ourne Laborate	ory - NATA Site	# 1254 & 142	71			х	Х	Х	Х	Х	Х		
Sydr	ney Laboratory	- NATA Site # 1	8217										-	
Bris	bane Laborator	y - NATA Site #	20794			V							4	
Pert	TP31 0 5-0 6	Nov 20, 2017	36	Soil	M17-De02420	X	x			-			-	
35	TP33_1.0-1.2	Nov 29, 2017		Soil	M17-De02439		X						-	
36	TP34 1.0-1.3	Nov 29, 2017		Soil	M17-De02441		x						1	
37	TRIP SPIKE	Nov 29, 2017		Soil	M17-De02442							х		
38	38 TRIP BLANK Nov 29, 2017 Soil M17-De02443											х		
Test	Counts					26	6	11	11	14	15	2		



### Internal Quality Control Review and Glossary

#### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.

- 2. All soil results are reported on a dry basis, unless otherwise stated.
- 3. All biota 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. 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.

mg/L: milligrams per litre

NTU: Nephelometric Turbidity Units

ppm: Parts per million

%: Percentage

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.

\*\*NOTE: pH duplicates are reported as a range NOT as RPD

#### Units

mg/kg: milligrams per kilogram ug/L: micrograms per litre ppb: Parts per billion org/100mL: Organisms per 100 millilitres MPN/100mL: Most Probable Number of organisms per 100 millilitres

#### Terms

1011110	
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	Quality Systems Manual ver 5.1 US Department of Defense
СР	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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

#### **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		1	 		
втех					
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		1			
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	mg/L	< 0.001	0.001	Pass	
Acenaphthylene	mg/L	< 0.001	0.001	Pass	
Anthracene	mg/L	< 0.001	0.001	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	
Chrysene	mg/L	< 0.001	0.001	Pass	
Dibenz(a.h)anthracene	mg/L	< 0.001	0.001	Pass	
Fluoranthene	mg/L	< 0.001	0.001	Pass	
Fluorene	mg/L	< 0.001	0.001	Pass	
Indeno(1.2.3-cd)pyrene	mg/L	< 0.001	0.001	Pass	
Naphthalene	mg/L	< 0.001	0.001	Pass	
Phenanthrene	mg/L	< 0.001	0.001	Pass	
Pyrene	mg/L	< 0.001	0.001	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	



Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
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	
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					
Heavy metals		0.004	 0.001	<b></b>	
	mg/L	< 0.001	 0.001	Pass	
	mg/L	< 0.0002	 0.0002	Pass	
	mg/L	< 0.001	 0.001	Pass	
Logd	mg/L	< 0.001	 0.001	Pass	
	mg/L	< 0.001	 0.001	Pass	
INIERCURY	mg/L	< 0.0001	0.0001	Pass	



Nickel         mgl         e.0001         Model         9.0001         Pass           Znc         0.001         Pass         0.001         Pass           Call S-% Recovery         0.001         Pass         0.001         Pass           TRH C6-03         %         91         70-130         Pass           TRH C6-03         %         91         70-130         Pass           C63-% Recovery         V         70-130         Pass         1000           C63-% Recovery         V         70-130         Pass         1000           C63-% Recovery         V         70-130         Pass         1000           Tokene         %         92         70-130         Pass           Tokene         %         92         70-130         Pass           Tokene         %         105         70-130         Pass           C63-% Recovery         V         70-130         Pass         1000           C64-% Recovery         V         70-130         Pass         1000           C54-% Recovery         V         70-130         Pass         1000         70-130         Pass           TRH C10-C1         %         113         70-	Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
ZncmgLc.0.05v0.005PassTotal Recoverable Hydrocarbons - 1999 NEPM Fractions%9170.130PassTRN C10-C4%9170.130PassTRN C10-C14%9170.130PassLCS - % Recovery70.130PassBenzene%9270.130PassTableno%9670.130PassBenzene%9670.130PassTolueno%9670.130PassBenzene%9670.130PassTableno%10570.130PassSyltensone%10570.130PassTableno%10570.130PassTableno%10570.130PassTableno%10570.130PassTableno%10570.130PassTableno%11370.130PassTableno%11370.130PassTableno%11370.130PassTableno%11370.130PassCaraghthene%11370.130PassCaraghthene%11370.130PassBenzola/Jiptone%11370.130PassBenzola/Jiptone%11470.130PassBenzola/Jiptone%11370.130PassBenzola/Jiptone%11470.130Pass	Nickel	mg/L	< 0.001		0.001	Pass	
LGS -% Recovery         Image: Control of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	Zinc	mg/L	< 0.005		0.005	Pass	
Total Recoverable Hydrocarbons - 1999 NEPM Fractions         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v	LCS - % Recovery						
TRH C10-C14         %         91         70-130         Pass           TRH C10-C14         %         115         70-130         Pass           EdS - & Recovery         "         1         70-130         Pass           BTEX         96         70-130         Pass         1           Entylbenzene         %         96         70-130         Pass           Etylbenzene         %         96         70-130         Pass           Etylbenzene         %         105         70-130         Pass           CES - & Recovery         "         70-130         Pass         1           CES - & Recovery         "         105         70-130         Pass           TRH C6C-10         %         119         70-130         Pass           CES - & Recovery         "         106         70-130         Pass	Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C10-C14         %         115         70-130         Pass           LCS - % Recovery         FIEX           70-130         Pass           Banzene         %         92         70-130         Pass            Bonzene         %         95         70-130         Pass            Ethylbonzene         %         105         70-130         Pass            Rowersen         %         105         70-130         Pass            May-Xienes         %         105         70-130         Pass            TRH c5-C10         %         105         70-130         Pass            TRH c5-C10         %         106         70-130         Pass            C5 -% Recovery          70-130         Pass             C5 -% Recovery          70-130         Pass             C6 -% Recovery          70-130         Pass             C6 -% Recovery          70-130         Pass             C6 -% Recovery          70-130         Pass<	TRH C6-C9	%	91		70-130	Pass	
LCS - % Recovery         Image: Control of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	TRH C10-C14	%	115		70-130	Pass	
BTEXImage: state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state state	LCS - % Recovery						
Benzene         %         92         M         70-130         Pass           Toluene         %         96         70-130         Pass         Image Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Nu	BTEX						
Toluene         %         96         70-130         Pass           Ethybenzene         %         95         70-130         Pass           Stylenes - Total         %         105         70-130         Pass           ICS - % Recovery         70-130         Pass         70-130         Pass           ICS - % Recovery         70-130         Pass         70-130         Pass           Naphhalene         %         105         70-130         Pass           TRH 05-C10         %         82         70-130         Pass           CIS - % Recovery         70-130         Pass         70-130         Pass           Acenaphthene         %         116         70-130         Pass           Acenaphthene         %         112         70-130         Pass           Benzo(a)prene         %         113         70-130         Pass           Benzo(a)prene         %         114         70-130 <td>Benzene</td> <td>%</td> <td>92</td> <td></td> <td>70-130</td> <td>Pass</td> <td></td>	Benzene	%	92		70-130	Pass	
Ethybenzene         %         95         70-130         Pass           måp-Xylenes         %         105         70-130         Pass           UCS -% Recovery         70-130         Pass         70-130         Pass           Total Recoverable Hydrocarbons - 2013 NEPM Fractions         %         105         70-130         Pass           TRH of Co-C10         %         02         70-130         Pass         70-130         Pass           TRH of Co-C16         %         02         70-130         Pass         70-130         Pass           CGS - % Recovery          70-130         Pass         70-130         Pass         70-130         Pass           CGS - % Recovery          70-130         Pass         70-130         Pass <td>Toluene</td> <td>%</td> <td>96</td> <td></td> <td>70-130</td> <td>Pass</td> <td></td>	Toluene	%	96		70-130	Pass	
m&p-Xylenes         %         105         70-130         Pass           Xylenes - Total         %         105         70-130         Pass           ICS - % Recovery         Total Recoverable Hydrocarbons - 2013 NEPM Fractions         No         70-130         Pass           Naphthalene         %         119         70-130         Pass         100           TRH -C6-C10         %         0.0         70-130         Pass         100           CS - % Recovery         70-130         Pass         100         70-130         Pass           CS - % Recovery         Infli         70-130         Pass         100         70-130         Pass           Acenaphthene         %         116         70-130         Pass         100         70-130         Pass           Antricene         %         111         70-130         Pass         100         70-130         Pass           Benzolajuntrinacene         %         111         70-130         Pass         100         70-130         Pass           Benzolajuntrinacene         %         111         70-130         Pass         100         70-130         Pass           Benzolajuntrinacene         %         1110         70	Ethylbenzene	%	95		70-130	Pass	
Xylenes - Total         %         105         70-130         Pass           LGS - % Recovery         -         -         -         -           Naphthalene         %         119         -         70-130         Pass           TRH CG-C10         %         92         -         70-130         Pass           TRH CG-C10         %         106         -         70-130         Pass           LCS - % Recovery         -         70-130         Pass         -           Polycyclic Aromatic Hydrocarbons         -         70-130         Pass         -           Acenaphthene         %         116         -         70-130         Pass           Acenaphthylene         %         116         -         70-130         Pass           Benzolajanthracene         %         116         -         70-130         Pass           Benzolajanthracene         %         112         -         70-130         Pass           Benzolajanthracene         %         111         -         70-130         Pass           Chrysene         %         114         -         70-130         Pass           Fluoranthene         %         114	m&p-Xylenes	%	105		70-130	Pass	
LCS - % Recovery         Image: Constraint of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco	Xylenes - Total	%	105		70-130	Pass	
Total Recoverable Hydrocarbons - 2013 NEPM Fractions         Image         Image <t< td=""><td>LCS - % Recovery</td><td></td><td></td><td>· ·</td><td></td><td></td><td></td></t<>	LCS - % Recovery			· ·			
Naphthalene         %         119         70-130         Pass           TRH J-C10-C16         %         92         70-130         Pass           ICS - % Recovery         70-130         Pass         70-130         Pass           Compatibility         106         70-130         Pass         70-130         Pass           Compatibility         116         70-130         Pass         70-130         Pass           Acenaphthene         %         1113         70-130         Pass         70-130         Pass           Acenaphthene         %         1113         70-130         Pass         70-130         Pass           Benz(a)anthracene         %         1112         70-130         Pass         70-130         Pass           Benz(a)hiburanthene         %         1112         70-130         Pass         70-130         Pass           Benzo(b)fluoranthene         %         111         70-130         Pass         70-130         Pass           Chrysene         %         111         70-130         Pass         70-130         Pass           Fluorene         %         114         70-130         Pass         70-130         Pass	Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH C6-C10         %         92         0         70-130         Pass           TRH C6-C10         %         106         70-130         Pass            CS -% Recovery         ************************************	Naphthalene	%	119		70-130	Pass	
TRH >C10-C16       %       106       70-130       Pass         Polycyclic Aromatic Hydrocarbons             Acenaphthene       %       116       70-130       Pass          Acenaphthylene       %       1113       70-130       Pass          Anthracene       %       1113       70-130       Pass          Benz(a)phylene       %       112       70-130       Pass          Benz(a)pyrene       %       112       70-130       Pass          Benz(a)pyrene       %       111       70-130       Pass          Benz(b)fluoranthene       %       111       70-130       Pass          Benz(b)fluoranthene       %       111       70-130       Pass          Chysene       %       111       70-130       Pass          Fluoranthene       %       1114       70-130       Pass          Fluoranthene       %       112       70-130       Pass          Indeno(1.2.3-cd)pyrene       %       114       70-130       Pass          Naphthalene       %	TRH C6-C10	%	92		70-130	Pass	
LCS - % Recovery         No.	TRH >C10-C16	%	106		70-130	Pass	
Polycyclic Aromatic Hydrocarbons         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         v         <	LCS - % Recovery			1 I	1		
Acenaphthene         %         116         70-130         Pass           Acenaphthylene         %         113         70-130         Pass           Anthracene         %         102         70-130         Pass           Benz(a)anthracene         %         116         70-130         Pass           Benzo(a)pyrene         %         111         70-130         Pass           Benzo(bå)fluoranthene         %         111         70-130         Pass           Benzo(bå)fluoranthene         %         111         70-130         Pass           Benzo(bå)fluoranthene         %         111         70-130         Pass           Dibenz(a,h)anthracene         %         111         70-130         Pass           Fluoranthene         %         111         70-130         Pass           Fluoranthene         %         114         70-130         Pass           Fluoranthene         %         114         70-130         Pass           Fluoranthene         %         114         70-130         Pass           Prene         %         114         70-130         Pass           Pytene         %         114         70-130         Pass	Polycyclic Aromatic Hydrocarbons						
Acenaphtlylene         %         113         70.130         Pass           Anthracene         %         102         70.130         Pass           Benz(a)anthracene         %         116         70.130         Pass           Benz(a)anthracene         %         111         70.130         Pass           Benzo(a)pyrene         %         112         70.130         Pass           Benzo(a)pyrene         %         113         70.130         Pass           Benzo(a)pyrene         %         111         70.130         Pass           Benzo(b)ifuoranthene         %         111         70.130         Pass           Benzo(b)inuranthene         %         111         70.130         Pass           Chrysene         %         94         70.130         Pass           Fluoranthene         %         114         70.130         Pass           Indeno(1.2.3-cd)pyrene         %         114         70.130         Pass           Indeno(1.2.3-cd)pyrene         %         114         70.130         Pass           Verene         %         114         70.130         Pass           Organochiorne Posticides         ////////////////////////////////////	Acenaphthene	%	116		70-130	Pass	
Anthracene         %         102         70-130         Pass           Benz(a)anthracene         %         116         70-130         Pass           Benz(a)aptrene         %         112         70-130         Pass           Benz(a)pyrene         %         113         70-130         Pass           Benzo(b)lluoranthene         %         113         70-130         Pass           Benzo(b)lluoranthene         %         111         70-130         Pass           Chrysene         %         94         70-130         Pass           Dibenz(a,h)anthracene         %         114         70-130         Pass           Fluoranthene         %         114         70-130         Pass           Fluorene         %         114         70-130         Pass           Indeno(1,2,3-cd)pyrene         %         112         70-130         Pass           Naphthalene         %         114         70-130         Pass           Pyrene         %         114         70-130         Pass           CS * Recovery         70         70-130         Pass         144-0DD           4.4'-DDD         %         90         70-130         Pass	Acenaphthylene	%	113		70-130	Pass	
Benzalantracene         %         112         70-130         Pass           Benza(a)pyrene         %         112         70-130         Pass           Benza(a)pyrene         %         113         70-130         Pass           Benza(ba)filuoranthene         %         113         70-130         Pass           Benzo(ba)filuoranthene         %         111         70-130         Pass           Benzo(k)filuoranthene         %         111         70-130         Pass           Chrysene         %         94         70-130         Pass           Dibenz(a,h)anthracene         %         111         70-130         Pass           Fluoranthene         %         112         70-130         Pass           Fluoranthene         %         112         70-130         Pass           Indeno(1.2.3-cd)pyrene         %         114         70-130         Pass           Phenanthrene         %         114         70-130         Pass           Pytene         %         114         70-130         Pass           LCS - % Recovery          77         70-130         Pass           4.4'DDT         %         99         70-130 <td< td=""><td>Anthracene</td><td>%</td><td>102</td><td></td><td>70-130</td><td>Pass</td><td></td></td<>	Anthracene	%	102		70-130	Pass	
Benzo(a)pyrene         No         112         70-130         Pass           Benzo(b&)fluoranthene         %         113         70-130         Pass           Benzo(b&)fluoranthene         %         113         70-130         Pass           Benzo(b,li)perylene         %         111         70-130         Pass           Benzo(b,fluoranthene         %         111         70-130         Pass           Chrysene         %         94         70-130         Pass           Dibenz(a,h)anthracene         %         110         70-130         Pass           Fluoranthene         %         112         70-130         Pass           Inden(1.2.3-cd)pyrene         %         112         70-130         Pass           Inden(1.2.3-cd)pyrene         %         112         70-130         Pass           Pyrene         %         114         70-130         Pass           Pyrene         %         116         70-130         Pass           LCS - & Recovery          70-130         Pass            4.4'DDT         %         99         70-130         Pass           4.4'DDT         %         90         70-130         Pass<	Benz(a)anthracene	%	116		70-130	Pass	
Discrete         No         112         To-130         Pass           Benzo(k)fluoranthene         %         113         70-130         Pass           Benzo(k)fluoranthene         %         111         70-130         Pass           Chrysene         %         94         70-130         Pass           Dibenz(a,h)anthracene         %         110         70-130         Pass           Fluoranthene         %         114         70-130         Pass           Fluorene         %         114         70-130         Pass           Indeno(1.2.3-cd)pyrene         %         112         70-130         Pass           Phenanthrene         %         114         70-130         Pass           Pyrene         %         112         70-130         Pass           Pyrene         %         114         70-130         Pass           Pyrene         %         114         70-130         Pass           Cs         %         114         70-130         Pass           Verene         %         116         70-130         Pass           Chronitorine Pesticides         ////////////////////////////////////	Benzo(a)pyrene	%	112		70-130	Pass	
Democyclopinionation         70         110         70.100         Pass           Benzo(h.i)perylene         %         111         70.130         Pass           Benzo(h.i)perylene         %         111         70.130         Pass           Dibenz(a,h)antracene         %         111         70.130         Pass           Dibenz(a,h)antracene         %         114         70.130         Pass           Fluoranthene         %         114         70.130         Pass           Fluoranthene         %         114         70.130         Pass           Indeno(1.2.3-cd)pyrene         %         104         70.130         Pass           Naphthalene         %         114         70.130         Pass           Phenanthrene         %         114         70.130         Pass           Pyrene         %         116         70.130         Pass           CtS - % Recovery          77         70.130         Pass           4.4'DDE         %         99         70.130         Pass           4.4'DDT         %         90         70.130         Pass           Aldrin         %         100         70.130         Pass     <	Benzo(b&i)fluoranthene	%	113		70-130	Pass	
Democylamic         No         Pass         Image: No         No         No         Pass         Image: No         No         No         Pass         Image: No         No         No         No         No         Points         Pass         Image: No         No         Points         Po	Benzo(a h i)pervlene	%	119		70-130	Pass	
Long (n) isolarities         No         11         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10         10 <td>Benzo(k)fluoranthene</td> <td>%</td> <td>111</td> <td></td> <td>70-130</td> <td>Pass</td> <td></td>	Benzo(k)fluoranthene	%	111		70-130	Pass	
Initial Stress         Initial Stress         Initial Stress         Initial Stress           Fluoranthene         %         114         70-130         Pass           Fluoranthene         %         114         70-130         Pass           Fluoranthene         %         112         70-130         Pass           Indeno(1.2.3-cd)pyrene         %         112         70-130         Pass           Naphthalene         %         112         70-130         Pass           Phenanthrene         %         114         70-130         Pass           Pyrene         %         116         70-130         Pass           CCS - % Recovery         %         116         70-130         Pass           CLS - % Recovery          77         70-130         Pass           4.4'-DDD         %         77         70-130         Pass           4.4'-DDT         %         99         70-130         Pass           a-BHC         %         99         70-130         Pass           Aldrin         %         92         70-130         Pass           Aldrin         %         92         70-130         Pass           BHC	Chrysene	%	94		70-130	Pass	
Discretion of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec	Dibenz(a b)anthracene	%	110		70-130	Pass	
Indenditation         No         Interview         No         Interview         Interview           Fluorene         %         112         70-130         Pass         Interview         Interview <td></td> <td>%</td> <td>114</td> <td></td> <td>70-130</td> <td>Pass</td> <td></td>		%	114		70-130	Pass	
Indenotion         No         Pass         Less         Image: No         Pass         Image: No         Pass <td>Fluorene</td> <td>%</td> <td>112</td> <td></td> <td>70-130</td> <td>Pass</td> <td></td>	Fluorene	%	112		70-130	Pass	
Interview         No         Pass         Pass         Prene           Pyrene         %         114         70-130         Pass          No	Indeno(1,2,3-cd)pyrepe	%	104		70-130	Pass	
International         No         Internet         Pyrene         No         Internet         No         Internet         Pyrene         No         Internet         Pyrene         No         Internet         Pyrene         Pyrene         No         Internet         Pyrene         Pyrene         Pyrene         Pyrene         Internet         Pyrene	Nanhthalene	%	112		70-130	Pass	
Initial method         No         114         100 100         100 100         100 100         100 100         100 100         Pass         Initial method         Pyrene         Initial method         Pass         Initial method	Phenanthrene	%	114		70-130	Pass	
LCS - % Recovery       Into       Int	Pyrene	%	116		70-130	Pass	
Organochlorine Pesticides         %         77         70-130         Pass           4.4'-DDE         %         99         70-130         Pass            4.4'-DDE         %         99         70-130         Pass            4.4'-DDT         %         90         70-130         Pass            a-BHC         %         95         70-130         Pass            Aldrin         %         95         70-130         Pass            b-BHC         %         92         70-130         Pass            d-BHC         %         92         70-130         Pass            b-BHC         %         92         70-130         Pass            d-BHC         %         102         70-130         Pass            Dieldrin         %         107         70-130         Pass            Endosulfan I         %         95         70-130         Pass            Endosulfan sulphate         %         84         70-130         Pass            Endrin         %         86         70-130         Pass	LCS - % Recovery	70			10 100	1 400	
4.4'-DDD       %       77       70-130       Pass         4.4'-DDE       %       99       70-130       Pass         4.4'-DDT       %       90       70-130       Pass         a-BHC       %       95       70-130       Pass         Aldrin       %       95       70-130       Pass         b-BHC       %       92       70-130       Pass         d-BHC       %       92       70-130       Pass         d-BHC       %       92       70-130       Pass         b-BHC       %       92       70-130       Pass         d-BHC       %       92       70-130       Pass         Dieldrin       %       102       70-130       Pass         Endosulfan I       %       95       70-130       Pass         Endosulfan sulphate       %       98       70-130       Pass         Endrin       %       98       70-130       Pass         Endrin       %       84       70-130       Pass         Endrin ketone       %       86       70-130       Pass	Organochlorine Pesticides						
A.4'-DDE       %       99       70-130       Pass         4.4'-DDT       %       90       70-130       Pass         a-BHC       %       95       70-130       Pass         Aldrin       %       95       70-130       Pass         b-BHC       %       92       70-130       Pass         d-BHC       %       92       70-130       Pass         d-BHC       %       92       70-130       Pass         b-BHC       %       92       70-130       Pass         d-BHC       %       92       70-130       Pass         Dieldrin       %       102       70-130       Pass         Endosulfan I       %       95       70-130       Pass         Endosulfan II       %       98       70-130       Pass         Endosulfan sulphate       %       84       70-130       Pass         Endrin       %       109       70-130       Pass         Endrin aldehyde       %       86       70-130       Pass		%	77		70-130	Pass	
4.4'-DDT       %       90       70-130       Pass         a-BHC       %       95       70-130       Pass         Aldrin       %       95       70-130       Pass         b-BHC       %       92       70-130       Pass         d-BHC       %       92       70-130       Pass         d-BHC       %       102       70-130       Pass         d-BHC       %       102       70-130       Pass         Dieldrin       %       102       70-130       Pass         Endosulfan I       %       95       70-130       Pass         Endosulfan II       %       98       70-130       Pass         Endosulfan sulphate       %       84       70-130       Pass         Endrin aldehyde       %       86       70-130       Pass	4 4'-DDF	%	99		70-130	Pass	
a-BHC       %       95       70-100       Pass         Aldrin       %       100       70-130       Pass         b-BHC       %       92       70-130       Pass         d-BHC       %       102       70-130       Pass         d-BHC       %       102       70-130       Pass         beldrin       %       102       70-130       Pass         Dieldrin       %       107       70-130       Pass         Endosulfan I       %       95       70-130       Pass         Endosulfan II       %       98       70-130       Pass         Endosulfan sulphate       %       84       70-130       Pass         Endrin aldehyde       %       86       70-130       Pass	4 4'-DDT	%	90		70-130	Pass	
Aldrin       %       100       70-100       Pass         b-BHC       %       92       70-130       Pass         d-BHC       %       102       70-130       Pass         beldrin       %       102       70-130       Pass         Dieldrin       %       107       70-130       Pass         Endosulfan I       %       95       70-130       Pass         Endosulfan sulphate       %       98       70-130       Pass         Endosulfan sulphate       %       84       70-130       Pass         Endrin aldehyde       %       86       70-130       Pass	2-BHC	/0 %	95		70-130	Pass	
Hom       70       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       100       Pass       India         b-BHC       %       92        70-130       Pass           Pass	Aldrin	70 0/2	100		70-130	Pass	
d-BHC       %       102       70-130       Pass         Dieldrin       %       107       70-130       Pass         Endosulfan I       %       95       70-130       Pass         Endosulfan sulphate       %       98       70-130       Pass         Endrin       %       84       70-130       Pass         Endrin       %       84       70-130       Pass         Endrin aldehyde       %       86       70-130       Pass         Endrin ketone       %       91       70-130       Pass	h-BHC	/0 %	92		70-130	Pass	
Dieldrin       %       102       70-130       Pass         Dieldrin       %       107       70-130       Pass         Endosulfan I       %       95       70-130       Pass         Endosulfan sulphate       %       98       70-130       Pass         Endrin       %       84       70-130       Pass         Endrin aldehyde       %       86       70-130       Pass         Endrin ketone       %       91       70-130       Pass		70 0/2	102		70-130	Pass	
Endosulfan I         %         95         70-130         Pass           Endosulfan II         %         98         70-130         Pass           Endosulfan sulphate         %         84         70-130         Pass           Endosulfan sulphate         %         84         70-130         Pass           Endrin         %         86         70-130         Pass           Endrin aldehyde         %         86         70-130         Pass           Endrin ketone         %         91         70-130         Pass	Dieldrin	/0 %	102		70-130	Pass	
Endosultan II%9870-130PassEndosulfan sulphate%8470-130PassEndrin%10970-130PassEndrin aldehyde%8670-130PassEndrin ketone%9170-130Pass		70 0/2	05		70-130	Pass	
Endosultan in7838070-130PassEndosulfan sulphate%8470-130PassEndrin%10970-130PassEndrin aldehyde%8670-130PassEndrin ketone%9170-130Pass	Endosulfan II	70 0/2	08		70-130	Pass	
Endocuter Subject         70         64         70-130         Pass           Endrin         %         109         70-130         Pass           Endrin aldehyde         %         86         70-130         Pass           Endrin ketone         %         91         70-130         Pass	Endosulfan sulphate	0/_	8/		70-130	Pase	
Endrin aldehyde         %         86         70-130         Pass           Endrin ketone         %         91         70-130         Pass	Endrin	/0 0/2	100		70-130	Page	
Endrin ketone % 91 70-130 Pass	Endrin aldehyde	0/_	86		70-130	Pass	
		/0 0/_	<u> </u>		70-130	Pass	
a_BHC (lindane) % 88 70.130 Page	a-BHC (Lindane)	/0 0/_	88		70-130	Pass	
Heptachlor % 106 70-130 Pass	Heptachlor	%	106		70-130	Page	



Test			Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code	
Heptachlor epoxide			%	98		70-130	Pass		
Hexachlorobenzene			%	107		70-130	Pass		
Methoxychlor			%	109		70-130	Pass		
LCS - % Recovery									
Heavy Metals									
Arsenic			%	100		80-120	Pass		
Cadmium			%	93		80-120	Pass		
Chromium			%	97		80-120	Pass		
Copper			%	97		80-120	Pass		
Lead			%	89		80-120	Pass		
Mercury			%	82		75-125	Pass		
Nickel			%	98		80-120	Pass		
Zinc			%	107		80-120	Pass		
		04	/0	107			Pass	Qualifying	
Test	Lab Sample ID	Source	Units	Result 1		Limits	Limits	Code	
Spike - % Recovery									
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1					
TRH C6-C9	M17-No32379	NCP	%	90		70-130	Pass		
TRH C10-C14	M17-No32718	NCP	%	107		70-130	Pass		
Spike - % Recovery									
BTEX				Result 1					
Benzene	M17-No32379	NCP	%	92		70-130	Pass		
Toluene	M17-No32379	NCP	%	97		70-130	Pass		
Ethylbenzene	M17-No32379	NCP	%	96		70-130	Pass		
m&p-Xvlenes	M17-No32379	NCP	%	107		70-130	Pass		
o-Xvlene	M17-No32379	NCP	%	106		70-130	Pass		
Xvlenes - Total	M17-No32379	NCP	%	107		70-130	Pass		
Spike - % Recovery			,.	1					
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1					
Naphthalene	M17-No32379	NCP	%	123		70-130	Pass		
TBH C6-C10	M17-No32379	NCP	%	90		70-130	Pass		
TRH >C10-C16	M17-No32718	NCP	%	98		70-130	Pass		
Spike - % Recovery	111111002110	1101	/0			10100	1 400		
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M17-De00326	NCP	%	75		70-130	Pass		
Acenaphthylene	M17-De00326	NCP	%	88		70-130	Pass		
Anthracene	M17-De00326	NCP	%	71		70-130	Pass		
Benz(a)anthracene	M17-De00326	NCP	%	93		70-130	Pass		
Benzo(a)pyrene	M17-De00326	NCP	%	88		70-130	Pass		
Benzo(b&i)fluoranthene	M17-De00326	NCP	%	87		70-130	Pass		
Benzo(a h i)pervlene	M17-De00326	NCP	%	91		70-130	Pass		
Benzo(k)fluoranthene	M17-De00326	NCP	%	88		70-130	Pass		
Chrysene	M17-De00326	NCP	%	80		70-130	Pass		
Dibenz(a h)anthracene	M17-De00326	NCP	%	105		70-130	Pass		
Fluoranthene	M17-De00326	NCP	%	87		70-130	Pass		
Fluorene	M17-De00326	NCP	%	74		70-130	Pass		
Indeno(1,2,3-cd)pyrene	M17-De00326	NCP	%	128		70-130	Pass		
Naphthalene	M17-De00326	NCP	%	75		70-130	Pass		
Phenanthrene	M17-De00326	NCP	%	71		70-130	Pass		
Pyrene	M17-De00320	NCP	/0 %	88		70-130	Page		
Snike - % Recovery			70	00		1 10-130	1 035		
Organochlorine Pesticidas				Recult 1					
	M17-De02229		0/_	70		70-120	Pass		
4.4'-DDE	M17-Dc02320		/0	82		70-130	Dace		
	M17 Dc02320		-70 0/	00		70-130	F dSS		
4.4 - UU I	IVI 17-De02328	NCP	70	03		70-130	rass		



Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
a-BHC	M17-De02328	NCP	%	87			70-130	Pass	
Aldrin	M17-De02328	NCP	%	80			70-130	Pass	
b-BHC	M17-De02328	NCP	%	85			70-130	Pass	
d-BHC	M17-De02328	NCP	%	83			70-130	Pass	
Dieldrin	M17-De02328	NCP	%	78			70-130	Pass	
Endosulfan I	M17-De02328	NCP	%	71			70-130	Pass	
Endosulfan II	M17-De02328	NCP	%	79			70-130	Pass	
Endosulfan sulphate	M17-De02328	NCP	%	77			70-130	Pass	
Endrin	M17-De02328	NCP	%	88			70-130	Pass	
Endrin aldehyde	M17-De02328	NCP	%	72			70-130	Pass	
Endrin ketone	M17-De02328	NCP	%	73			70-130	Pass	
g-BHC (Lindane)	M17-De02328	NCP	%	76			70-130	Pass	
Heptachlor	M17-De02328	NCP	%	80			70-130	Pass	
Heptachlor epoxide	M17-De02328	NCP	%	74			70-130	Pass	
Hexachlorobenzene	M17-De02328	NCP	%	117			70-130	Pass	
Methoxychlor	M17-De02328	NCP	%	104			70-130	Pass	
Spike - % Recovery				1			1	-	
Organophosphorus Pesticides				Result 1					
Diazinon	M17-De00326	NCP	%	94			70-130	Pass	
Dimethoate	M17-De00326	NCP	%	79			70-130	Pass	
Ethion	M17-De00326	NCP	%	79			70-130	Pass	
Mevinphos	M17-De00326	NCP	%	72			70-130	Pass	
Spike - % Recovery				1					
Heavy Metals				Result 1					
Arsenic	M17-De02230	NCP	%	99			75-125	Pass	
Cadmium	M17-De00247	NCP	%	105			75-125	Pass	
Chromium	M17-De02230	NCP	%	96			75-125	Pass	
Copper	M17-De02230	NCP	%	96			75-125	Pass	
Lead	M17-De02230	NCP	%	89			75-125	Pass	
Mercury	M17-De02230	NCP	%	90			70-130	Pass	
Nickel	M17-De02230	NCP	%	96			75-125	Pass	
Zinc	M17-De02230	NCP	%	84			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons -	1999 NEPM Fract	ions		Result 1	Result 2	RPD			
TRH C6-C9	M17-No32378	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH C10-C14	M17-De02327	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	M17-De02327	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	M17-De02327	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
ВТЕХ				Result 1	Result 2	RPD			
Benzene	M17-No32378	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M17-No32378	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M17-No32378	NCP	mg/L	0.002	0.002	1.0	30%	Pass	
m&p-Xylenes	M17-No32378	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M17-No32378	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	M17-No32378	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons -	2013 NEPM Fract	ions		Result 1	Result 2	RPD			
Naphthalene	M17-No32378	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	M17-No32378	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
TRH >C10-C16	M17-De02327	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	M17-De02327	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	M17-De02327	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	



Duplicate									
Polycyclic Aromatic Hydrocarbons	5			Result 1	Result 2	RPD			
Acenaphthene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Acenaphthylene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Anthracene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benz(a)anthracene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(a)pyrene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(b&j)fluoranthene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(g.h.i)perylene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Benzo(k)fluoranthene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Chrysene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Dibenz(a.h)anthracene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluoranthene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Fluorene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Naphthalene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Phenanthrene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Pyrene	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate				1					
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M17-De02981	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
4.4'-DDD	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDE	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
4.4'-DDT	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
a-BHC	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Aldrin	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
b-BHC	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
d-BHC	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Dieldrin	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan I	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan II	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endosulfan sulphate	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin aldehyde	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Endrin ketone	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
g-BHC (Lindane)	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Heptachlor epoxide	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Hexachlorobenzene	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Methoxychlor	M17-De02981	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Toxaphene	M17-De02981	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate				1	1			1	
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Bolstar	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorfenvinphos	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Chlorpyrifos	M17-De02981	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Chlorpyrifos-methyl	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Coumaphos	M17-De02981	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-S	M17-De02981	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Demeton-O	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Diazinon	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dichlorvos	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Dimethoate	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Disulfoton	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
EPN	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	



Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Ethion	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethoprop	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ethyl parathion	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenitrothion	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fensulfothion	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Fenthion	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Malathion	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Merphos	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Methyl parathion	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Mevinphos	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Monocrotophos	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Naled	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Omethoate	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Phorate	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Pirimiphos-methyl	M17-De02981	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Pyrazophos	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Ronnel	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Terbufos	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tetrachlorvinphos	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Tokuthion	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Trichloronate	M17-De02981	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	M17-De02230	NCP	mg/L	0.002	0.002	2.0	30%	Pass	
Cadmium	M17-De00247	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium	M17-De02230	NCP	mg/L	0.001	< 0.001	35	30%	Fail	Q15
Copper	M17-De02230	NCP	mg/L	0.001	< 0.001	17	30%	Pass	
Lead	M17-De02230	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury	M17-De02230	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel	M17-De02230	NCP	mg/L	0.002	0.002	25	30%	Pass	
Zinc	M17-De02230	NCP	mg/L	0.16	0.16	3.0	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
Comments	

### **Qualifier Codes/Comments**

Code Description

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 N01 (Purge & Trap analysis).

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.

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 | mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

### Authorised By

Nibha Vaidya	Analytical Services Manager
Alex Petridis	Senior Analyst-Metal (VIC)
Alex Petridis	Senior Analyst-Organic (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Joseph Edouard	Senior Analyst-Organic (VIC)

li falle

### **Glenn Jackson**

National Operations 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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## Appendix G – Unexpected Finds Procedure

## 9. UNEXPECTED FINDS PROTOCOL

## 9.1. Awareness of Personnel

Personnel involved in earthworks on site are to be inducted on the recognition of unexpected finds and asbestos (in soil) awareness. The induction can be undertaken at the time of general site induction and refreshed periodically at toolbox meetings.

Awareness of all types of possible unexpected finds is not practicable, but conditions that indicate a potential risk would be discussed, such as presence of foreign materials and demolition rubble. In general, a precautionary approach will be employed, in that when a suspected hazard is discovered activity in the immediate area will be suspended and the affected area isolated until a competent person is available to assess the risk and make recommendations for mitigation and/or management of that risk, as appropriate. This unexpected finds procedure outlined in the following section will be implemented.

Some forms of potential contamination may not have any visual or olfactory indicators in the field. The unexpected finds procedure will not provide protection against such hazards. Coffey expects that such contaminants would be apparent through results of chemical analysis for validation sampling, either directly or indirectly.

## 9.2. Potential Unexpected Finds

Based on findings of previous investigations and site history, unexpected finds which could reasonably occur within the site are summarised in Table 9.1.

Potential Unexpected Find	Observed Characteristic
Buried dry waste materials	May include a variety of waste materials including wood, plastic, metal fragments, building rubble (e.g. concrete, brick, asphalt, forms of asbestos etc.).
Buried putrescible wastes	Putrescible waste materials typically comprise decomposed organic waste materials intermixed within the fill materials on site, with an associated characteristic rotten egg type odour. Such materials should not be confused with decomposed plant matter found within the natural sandy soils.
Structures or conduits containing deleterious materials	<ul> <li>Could be identified as follows:</li> <li>A buried tank, or cess pit, or former process pipelines;</li> <li>Deeper sand fill sometimes with visual/olfactory indications of contamination</li> <li>Presence of small concrete footings surrounding by odorous of visually impacted soils and/or groundwater.</li> </ul>
Ash or slag deposits	Ash materials typically light weight, grey and white sand and gravel sized (1mm to 10mm) particles. Slag materials can be varied in consistency and colour and may comprise pale grey to blue/green/grey, and be loose or cemented. Slag gravels can be very angular and appear to have a vesicular (i.e. 'honeycomb') texture.

Table 9.1: Summary of Non-specific Unexpected Finds

Hydrocarbon Compounds	May be identified by a hydrocarbon odour which may vary in strength from weak (just detectable) to very strong (easily detectable at a distance from the source).						
	The odour may or may not be accompanied by specific areas of dark staining (black- grey) or larger scale discolouration of strata from a previously identified 'natural colour' e.g. staining of orange and brown clay to dark grey and green. May also be visible as a distinct coloured sheen on water within an excavation.						
Other unusual odours	<ul> <li>Solvent odour</li> <li>Acetone odour</li> <li>Alcohol odour</li> <li>Caustic odour</li> </ul>	<ul> <li>Acidic (Acetic/Formic/Citric) odour.</li> <li>Ammonia odour</li> <li>Sulfur (rotten egg) odour (possibly associated with acid sulfate soil)</li> </ul>					

## 9.3. Unexpected Finds Procedure

Should actual or suspected contamination be discovered during asbestos removal or basement construction works, the following procedure will be applied:

- Stop work in the suspected hazardous area as soon as it is safe to do so and move to the upwind side of the area, or away from the area.
- Assess the potential immediate risk to human health posed by the unexpected find and assess if evacuation should commence and/or emergency services need to be contacted.
- Establish an exclusion zone around the affected area using fencing and/or appropriate barriers and signage. Additional control measures may be required for odours and/or volatile compounds: odour suppression and no flames/hot work signage.
- Contact the Environmental Consultant for advice and request a site visit for assessment of the unexpected find. The Site Auditor and Karimbla should be informed of the find.

The Environmental Consultant will assess the unexpected find and provide advice regarding:

- Preliminary assessment of the contamination and need for immediate risk reduction;
- What further assessment and/or risk reduction works are required and how such works are to be undertaken in accordance with contaminated site regulations and guidelines;
- Risk reduction works required (where applicable); and
- Validation works required following risk reduction works (if applicable).

Works are not to recommence in the affected area until appropriate advice has been obtained from the Environmental Consultant and relevant information has been provided to the Site Superintendent / Principal Contractor to issue notification to recommence.

If it is deemed safe to do so by the Site Superintendent / Principal Contractor, works may resume in the affected area.

## **10. RESPONSIBILITIES**

A summary of responsibilities in relation to implementation of the CMP is tabulated in Table 10.1.

Table 10.1: Summary of Responsibilities

Role	Responsibilities
Site Superintendent / Principal Contractor	<ul> <li>Ensure that this CMP is implemented and adhered to.</li> <li>Provide relevant information regarding site environmental management to contractors and subcontractors working at the site.</li> <li>Inform contractors and subcontractors working on-site of this CMP.</li> <li>Ensure that contractors and subcontractors undertaking works at the site are fulfilling the environmental protection/management responsibilities for the work.</li> <li>Maintain records and documents produced as a result of this CMP.</li> <li>Implement an inspection and maintenance program as recommended in Section 7 of this CMP.</li> <li>Arrange for themselves (including contractors/subcontractors) and relevant representatives to be inducted into this CMP, both now and in the future as required, by a competent environmental professional or appropriately trained alternative representative.</li> </ul>
Contractors / subcontractors	<ul> <li>Liaise with the Site Superintendent / Principal Contractor, other contractors and parties, and relevant authorities.</li> <li>Ensure overall compliance with the CMP, applicable legislation and regulations during the works.</li> <li>Regular reporting of the CMP performance to the Site Superintendent / Principal Contractor.</li> </ul>
Environmental Consultant	<ul> <li>Induct the Civil Contractor into the requirements of the CMP, as required.</li> <li>Provide advice to the Site Superintendent / Principal Contractor and relevant parties regarding management of environmental issues as detailed in Section 8 of this CMP.</li> <li>Respond to unexpected finds, as required.</li> <li>Undertake annual review of the effectiveness of the CMP, and revise the CMP as required at the request of the Site Superintendent / Principal Contractor.</li> </ul>

## Appendix H – SafeWork NSW Notice of Intent to Remove Friable Asbestos

A copy had not been provided at the time of writing

## Appendix I – Asbestos Air Monitoring Results

Coffey SYDEN205656-R05 19 July 2019



PO Box 457 Turramurra NSW 2074

ABN: 69 041 751 671

PH: 0437 251 358 Email: philclifton@bigpond.com

4 December 2017

Ms Nicole Maroun Earthworx PO Box 7815 Baulkham Hills NSW 2153

### RE: RESULTS OF AIRBORNE ASBESTOS FIBRE MONITORING 2 WARRIEWOOD ROAD, WARRIEWOOD NSW

Dear Sir,

We refer to your request to undertake monitoring for airborne asbestos fibres on Thursday 30 November 2017 during the removal of soil containing asbestos cement sheet debris from the Meriton development site at 2 Warriewood Road, Warriewood NSW.

This monitoring was carried out in accordance the requirements of the Safe Work Australia How to Safely Remove Asbestos Code of Practice, Section 3.11 and the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres' 2<sup>nd</sup> edition [NOHSC 3003:2005].

The results of the monitoring are as follows:

Sample No.	Location	Time On	Time Off	Fibre Count	Airborne Fibre
				fibres/fields	Concentration
					(fibres/ml)
PCA 5644 -	East side of	07:00	15:00	0.0/100	<0.01
2017/A10/1	excavation area				
PCA 5644 -	West side of	07:02	15:02	2.0/100	<0.01
2017/B50/2	excavation area				
PCA 5644 -	South side of	07:04	15:04	3.0/100	<0.01
2017/B77/3	excavation area				

The above result is below the lowest detectable level for the estimation of airborne asbestos fibres using the membrane filter method and below the NOHSC recommended exposure level for airborne asbestos fibres (8 hour TWA) of 0.1 fibres/ml.

This result indicates that there was no measurable human health risk from airborne asbestos fibres in these areas during the monitoring period.

The NATA endorsed laboratory report is attached.



Page 2 of 2 4 December 2017

If you require any further information, please contact me on 0437 251 358.

## Yours faithfully P. CLIFTON & ASSOCIATES PTY LTD

P. Clifter.

Philip Clifton Principal

Attachment: Laboratory Report


LABORATORY REPORT

PCA5644-2017\_AMLET01\_30Nov17



A division of Enviro-Net Australia Pty. Ltd. ABN 39 067 499 389 ACN 067 499 389 NATA Reg. 3110 www.environet.com.au Email: esp@esplabs.com.au

> Melbourne Laboratory (Head Office) Unit 2/2B Parker Street Footscray, Victoria 3011 Ph: (03) 9688 8000

## **CERTIFICATE OF AIR MONITORING**

Date:	4 December 2017	
ESP Job Numbe	: J37628	
Customer:	P. Clifton & Associates Pty Ltd	
Address:	PO Box 457, Turramurra NSW, 2074	
Attention:	Phil Clifton	
Sampled From:	As received (Your ref: PCA 5644-2017)	
Sampled By:	As received	
Date Received:	4 December 2017	
Test Method:	Filters examined in accordance with Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2 <sup>nd</sup> Edition [NOHSC:3003(2005)] using ESP in-house Method No. 1.	
ESP Lab No.	Customer Sample Reference	Result (fibres/field)
53935 53936 53937	A10/1 B50/2 B77/3	Nil/ 100 2/ 100 3/ 100

The results contained in this report relate only to the sample(s) submitted for testing. ESP Environmental & Safety Professionals accepts no responsibility for the representivity of the sample(s) submitted

Mathew Cupic Approved Counter / Approved Signatory



NATA Accredited Laboratory Number: 3110 Accredited for compliance with ISO/IEC-17025 - Testing Site Number: 3103 R\_171204\_J37628\_P. Clifton & Associates Pty Ltd\_PCA 5644-2017\_Airmon\_F1 Page 1 of 1

## Appendix J – Visual Validation: Relocation of Terracotta to beneath roadway



Photograph 1: Visual validation of the western portion of the site (looking north west)



Photograph 2: Visual validation of eastern portion of the site (looking north east)



Photograph 3: Area of terracotta remaining which was requested to be excavated



Photograph 4: Area following removal of terracotta (photo provided by Meriton 23 February 2018)



Photograph 6: Area following removal of terracotta (photo provided by Meriton 23 February 2018) – It is noted that the exposed material is consistent with natural sands encountered during the site investigation.



Photograph 5: Area of terracotta remaining which was requested to be excavated – looking east/north east



Photograph 7: Eastern boundary of the site – view of future riparian reserve and road (beneath). It is noted that the exposed material is consistent with natural sands encountered during the site investigation (photo provided by Meriton 23 February 2018).



Photograph 8: Crushed terracotta placed within future road area. Photograph looking south along the western boundary.



Photograph 9: Exposed surface within the future residential area, some gravelly sand remains. Photograph looking north east with the future road in the distance.

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