Pacific Hills Christian School
Detailed Site Investigation - Proposed New Hope School
9-15 Quarry Road, Dural NSW

754-NTLEN272143-R01a

11 May 2020

To find the smartest solutions sometimes you need to dig deeper

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Detailed Site Investigation - Proposed New Hope School

Prepared for
Pacific Hills Christian School

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Executive Summary

NBRS Architecture (NBRS) on behalf of their client Pacific Hills Christian School (Pacific Hills), have submitted a development application (DA) to Hornsby Shire Council in November 2019 for the proposed construction of New Hope School located at 9-15 Quarry Road, Dural NSW (referred to as the 'Site'). Coffey (Coffey) Services Australia Pty Ltd have been engaged by NBRS to undertake a Detailed Site Investigation (DSI) at the Site as per the request of council in February 2020, for determination.

The objective of the DSI was to assess if the site was suitable (or could be made suitable) for the proposed New Hope School development. The DSI was requested by NBRS on behalf of Pacific Hills based on recommendations provided in the Preliminary Contamination Assessment (PCA) conducted by Environmental Investigation Services (EIS) in December 2018 (EIS Ref: E31997KBrpt). The results of the EIS (2018) PCA indicated that one fill sample (BH2 – 0-0.3), collected on the northern boundary, reported a petroleum hydrocarbon TRH-F3 concentration, in exceedance of the relevant ASC NEPM 1999 (2013) Ecological Screening Level (ESL) for Urban Residential and Public Open Space (2,200 mg/kg vs. ESL criteria 1,300 mg/kg).

The objectives of this DSI were to:

- Identify and assess the location where the previous TRH exceedance existed and
- Assess soil contamination conditions by implementing a sampling, analysis and quality program (SAQP);
- Develop a preliminary conceptual site model (CSM) to identify source, pathway and receptor (SPR) linkages;
- Provide a preliminary insitu waste classification of the fill at the Site; and
- Assess site suitability for the proposed development.

To identify potential contamination in soil and groundwater at the site, ten (10) soil boreholes were drilled to a maximum depth of 2.0 metres Below Ground Level (mBGL) and three (3) groundwater monitoring wells installed to a maximum 4.5mBGL. The groundwater monitoring wells were located both up and down hydraulic gradient of the previous TRH exceedance.

A total of twenty (20) soil samples and three (3) groundwater samples were collected and analysed for COPC's and to also facilitate a preliminary in-situ waste classification. The soil analytical results were compared to the Health Investigations Levels (HIL) A – Residential (with minimal opportunities for soil access) in the ASC NEPM (2013). The results were also compared with the NSW EPA Waste Classification Guidelines (2014).

Based on the results previous investigation (EIS 2018) and the results provided in the DSI, Coffey considers that no unacceptable health or ecological risks attributable to land and groundwater contamination was identified at the site.

The TRH fraction exceedance previously observed within fill soils around sample location BH2 was not identified during soil and groundwater investigations. As TRH results in the fill, natural soil and groundwater, were below the laboratory limit of reporting in each sample tested, the previous TRH result is not considered representative and was possibly a false positive. No further assessment of ecological risk is required at this stage.

The Site is therefore considered suitable for its proposed use as a Class 9b Education establishment (New Hope School). The fill to a depth of about 0.4m below ground surface has a preliminary classification as General Solid Waste (GSW CT1). The natural soils and weathered rock beneath the fill may have potential for reuse opportunities as either Excavated Natural Material (ENM) and or Virgin Excavated Natural Material (VENM). These classifications may be given pending further assessment once civil works commence.

It is recommended that prior to the commencement of earthworks and site development, an appropriate Construction Environmental Management Plan (CEMP) is prepared by the primary contractor. The CEMP will manage environmental risk posed to construction workers, and to the surrounding public and environment, and manage waste in accordance with appropriate New South Wales statutes. Coffey also recommends inclusion of an appropriate unexpected finds protocol (UFP) within the CEMP, to provide a procedure for emergency response should visible ACM material, or any other unknown contamination, be uncovered during site redevelopment.

1. Introduction

Coffey Services Australia Pty Ltd (Coffey) was commissioned by NBRS Architecture (NBRS) on behalf of Pacific Hills Christian School (Pacific Hills) to undertake a Detailed Site Investigation (DSI) for the proposed development of the New Hope School. The proposed development is located at 9-15 Quarry Road, Dural ('the Site'), immediately west of Pacific Hills Christian School, The Site location is shown on Figure 1.

Based on information provided by NBRS, Coffey understands that the proposed development will include the construction of eight, new, single-story building structures in the north-eastern section of the Site. A large asphalt sealed carpark, accommodating approximately 65 car spaces, is also planned in the south-western section of the Site. A mixture of concrete pathways and landscaped areas will be included within open areas of the development.

Entry to the new school will be provided by the construction of a driveway providing access from Quarry road, west of the existing Pacific Hills School entry. Preliminary architectural drawings prepared by NBRS (Ref:17369, dated November 2019) are presented in Appendix G.

This DSI report has been completed with consideration to the Preliminary Contamination Assessment (PCA) completed by Environmental Investigation Services (EIS) (Ref: Environmental Site Assessment for Proposed New Hope School at 9-15 Quarry Road, Dural (Ref: E31997KBrpt, Dated 21 December 2018).

This report was prepared in accordance with the NSW EPA *Guidelines for Consultants reporting on contaminated Land: Contaminated land guidelines* (2020) and *SEPP 55 State Environmental Planning Policy 55 – Remediation of Land.*

1.1. Objective

The objectives of the assessment were to:

- Identify and assess the location where the previous TRH exceedance existed;
- Assess soil contamination conditions by implementing a sampling, analysis and quality program (SAQP);
- Prepare a conceptual site model (CSM) to identify source, pathway and receptor (SPR) linkages;
- Provide a preliminary insitu waste classification of the fill at the Site; and
- Assess site suitability for the proposed development.

1.2. Scope of Works

The DSI assessed the areas of environmental concern (AEC's) identified in the PCA (EIS 2018) and included:

- The preparation and implementation of a project specific health, safety, security and environment (HSSE) plan for field related activities;
- Location of underground services by a qualified and experienced service locator prior to the commencement of intrusive works;
- Field assessment program, including:
  - Soil sampling from ten (10) boreholes (CBH01 to CBH10); and
  - Groundwater sampling from three (3) groundwater monitoring wells installed as part of the DSI (MW01 to MW03).
- Laboratory analysis of soil and groundwater samples for selected Contaminants of Potential Concern (COPCs) including:
  - Total Recoverable Hydrocarbons (TRH);
  - Benzene, Toluene, Ethylbenzene and Xylene (BTEX);
  - Polycyclic Aromatic Hydrocarbons (PAH);
  - Organochlorine Pesticides (OCP);
  - Organophosphorus Pesticides (OPP);
  - Poly-chlorinated biphenyls (PCB); and
  - Heavy Metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn);
  - Asbestos (Soil only);
- Data appraisal and interpretation; and
- Preparation of a DSI report (this document) in accordance with the NSW EPA Guidelines for Consultants reporting on contaminated Land: Contaminated land guidelines (2020) and SEPP 55 State Environmental Planning Policy 55 – Remediation of Land

The work carried out, including detailed methodologies applied during the assessment, are described in Section 5 of this report.

2. Site Information

2.1. Site Identification

The site location and site plan are presented in Figures 1 & 2, respectively. Site identification details are provided in Table 2-1 below.

Table 2-1: Site Identification Summary

Site Address:	9-15 Quarry Road, Dural NSW 2158
Current Site Ownership	Pacific Hills Christian School
Property and Site Area	Lot 32 is approximately 10,100m^2 Site is 1.1 hectares
Site Identification Details	Part of Lot 32 in DP1223069
Current Zoning	RU2 – Rural Landscape. An area zoned as E3 – Environmental management is located in the north-western corner of Lot 32.
Current Site Use	The site is currently vacant with fresh grassed vegetation covering the surface soils. The south-eastern section of the site is currently being utilised as a temporary staff carpark.
Proposed Site Use	Proposed use as a primary school facility with the development of the New Hope School facility.
Adjoining Site Uses	• North: School sporting fields with bushland beyond; • East: Pacific Hills Christian School; • South: Low-density residential; and • West: Market garden business.
Site Coordinates	Latitude: -33.695835° Longitude: 151.037246°

Selected photographs of the current site conditions observed during the site investigation are presented in Appendix B.

2.2. Geology and Soils

A review of the Sydney 1:100,000 Geological Map indicated that the site is located close to a geological boundary of two geological formations, namely Hawkesbury Sandstone and Wianamatta Shale. The geology observed at the site was underlain with Hawkesbury Sandstone, which typically consists of medium to coarse grained quartz sandstone with minor shale and laminate lenses.

2.3. Acid Sulfate Soils

Reference to the risk maps provided by Department of Land and Water Conservation indicates the site is located within an area with no known occurrence of acid sulfate soils (ASS).

2.4. Regional Topography and Drainage

Available topographic information indicates the Site is at an elevation of approximately 204 – 194 metres Australian Height Datum (mAHD). The site is located on the southern side of a north-east facing hillside, with surrounding areas observed as undulating landscapes. The site slopes gently from south to north, approximately 5° from the horizontal.

Rain falling on the site is expected to infiltrate into the site soils. Excess run-off from the is expected to flow to the north, north-east of site towards a tributary which feeds into Tunks Creek located approximately 700m to the north east. Tunks Creek eventually discharges to Broken Bay located about 11 km to the north east.

2.5. Regional Hydrogeology

Regional groundwater beneath the site is anticipated to be present in the fractured rock at depths greater than 10m. A shallow perched groundwater probably exits at the residual soil / weathered rock interface, between 1 and 5 metres below the ground surface (bgs). This perched aquifer may be discontinuous and exist only after prolonged rainfall.

Regional groundwater flow is anticipated to follow the general slope of the region to the north, likely discharging into the lower reaches of Tunks Creek and or Broken Bay, located approximately 11km north-east of the site.

A search of groundwater bore licenses was undertaken on 1st June 2019 using the Water NSW website (https://realtimedata.waternsw.com.au/). The results of the search indicated two registered groundwater bores within a 500m radius of the site.

- (GW104854) was located approximately 220m southwest of the site and is registered as a test bore, drilled to a depth 210.4m of Below Ground Level (BGL);
- (GW105507) was located approximately 295m north of the site and is registered for stock/domestic purposes, drilled to a depth of 204.1m BGL; and
- The Standing Water Level (SWL) data in the two registered bores ranging from 77m bgl (GW104854) and 88m bgl (GW105507) respectively.

No monitoring bores were registered within the 500m radius, however following the installation and development of an additional three monitoring wells at the site (MW01 – MW03), a perched aquifer was observed with SWL observed during the groundwater monitoring event observed at 1.27 – 1.35m mBGL.

3. Site History Review

3.1. Review of Previous Assessments

3.1.1. Environmental Investigation Services (2018) *Environmental Site Assessment for Proposed New Hope School at 9-15 Quarry Road, Dural* (Reference No: Ref E31997KBrpt)

The Environmental Site Assessment (ESA) report presented a summary of the historical uses of the of the Site based on a review of selected aerial photographs, NSW EPA public registers and Council planning records/certificates and identified the following:

- Historical aerial photography indicates the Site appears to have been utilised for agricultural and cultivation purposes from 1956 until 1991 when the site was cleared. Several small sheds and market gardens were present until 2009 before being cleared prior to 2016. The Site appeared vacant and covered with fresh grassed vegetation from 2017 and was similar to the current site condition;
- The Site was not identified as being a high risk for dryland salinity or potential acid sulfate soils; and
- The site was not identified as being listed on the NSW EPA contaminated land register or licenced under the POEO register, with previous land uses not identified as being significantly contaminating activities.

A field investigation was undertaken by EIS on the 12th November 2018 as part of the ESA to identify potential AECs at the site. The field investigation included a preliminary assessment of the soil conditions on-site including:

- The collection of soil samples from (15) fifteen test pits advanced to depths 0.1m – 0.4m bgs, targeting fill material across the site;
- One fill sample (BH2 – 0-0.3), collected on the northern boundary, reported a TRH-F3 concentration, in exceedance of the relevant NEPM 1999 (2013) Ecological Screening Level for Urban Residential and Public Open Space (2,200 mg/kg vs. 1,300 mg/kg). The source of TRH-F3 was possibly associated with a localised spillage of petroleum.; and
- Low concentrations of DDT were detected in most samples fill samples (CBH02_0.0-0.2, CBH03_0.0-0.2, CBH04_0.0-0.2, CBH05_0.0-0.2, CBH06_0.0-0.2, CBH08_0.0-0.2 and CBH09_0.0-0.2) and was most likely associated with the former land use as a market garden.

Based on the findings of the ESA, EIS recommended that the site could be made suitable for the proposed development provided that the following recommendations are implemented:

- *"Undertake a Detailed Site Investigation (DSI) (Stage 2) with additional testing to address the data gaps identified in the ESA report including:*
  - *Additional soil and groundwater testing required to assess the risk posed by the AEC to site receptors; and*
  - *Additional Waste Classification assessment is required to classify material soil material for proposed development. "*

4. Data Quality Objectives (DQO)

As stated in Section 18 (Appendix B) of Schedule B2 'Guideline on Site Characterisation' of the ASC NEPM(1999 2013), Data Quality Objectives (DQOs) are used to "define the type, quantity and quality of data needed to support decisions relating to the environmental condition of a site".

Data Quality Objectives (DQOs) were developed for this DSI and are summarised in Table 4-1.

Table 4-1: Summary of Data Quality Objectives

1. State the problem	A preliminary assessment identified petroleum hydrocarbons above ecological investigation levels and low-level pesticide concentrations. Additional assessment was required to further characterise the site to to assess whether the site was suitable (or can be made suitable) for the proposed development of the New Hope School from a contamination perspective. The main questions to be answered are: • How many boreholes should be sampled and where? • How many groundwater monitoring wells should be installed and where? • Are there access restrictions present that may affect the location of boreholes? • To what depths should the boreholes be drilled? • To what depths should the groundwater monitoring wells be drilled? • At what depth should soil samples be collected? • What are the contaminants of potential concern for soil & groundwater?
2. Identify the decision	Was the site suitable (or could be made suitable) for the proposed development of the New Hope School from a contamination perspective.
3. Identify inputs to the decision	The primary inputs include: • Information gathered from previous reports undertaken at the Site. • Field observations, soil and groundwater samples, PID screening results, and soil and groundwater analytical results • Relevant legislation and regulatory guidelines. Decisions that need to be made to resolve the decision statement: • What media, that is, soil or groundwater should be assessed? • What is an adequate number of sampling locations in accordance with recommendations in NSW EPA (1995) Contaminated Sites: Sampling Design Guidelines? • Do the number of samples analysed for each chemical of concern provide adequate data set to complete a statistical appraisal? • Does the data adequately represent the conditions on site? Environmental variables to be measured: • Concentrations of chemicals of concern within soil at the site; • Concentrations of chemicals of concern within groundwater at the site; Media to be collected:

	• Fill materials; • Natural soil material; • Groundwater
4. Define the boundaries of the study	The study boundaries are defined by the boundaries of the site as shown in Figure 2. The vertical boundary for soils assessment was approximately 2m below the existing ground surface or the observed depth of fill. For groundwater assessment, the investigation boundary is the SWL in the installed groundwater wells (about 1.5m bgs).
5. Develop a decision rule	The decision rule for soil for each chemical/layer to assess the suitability of the site will be as follows: *Health Investigation Levels and Health Screening Levels:* • Where data sets are not sufficiently populated to calculate a 95% UCL then individual results are to be less than the health-based assessment criteria. Where individual concentrations are more than the health-based assessment criteria then further assessment and/or management would be required. This could include assessing individual results and/or undertaking a Tier 2 risk assessment. • Where the 95% UCL can be calculated, the 95% UCLs are to be less than the health based assessment criteria and no individual results in the data set are to be greater than 250% of the assessment criteria; and the standard deviation of the data set is to be within 50% of the assessment criteria. • Where the 95% UCL is less than the assessment criteria then further assessment and/or management would normally not be required. *Environmental Investigation Levels and Ecological Screening Levels (ESL)* • Data is to be compared directly to environmental based assessment criteria. Where individual concentrations are more than the EILs / ESLs, further assessment and/or management would be required. This could include assessing individual results and/or undertaking a Tier 2 risk assessment. *Background Levels* • Coffey will review published background ranges to assess background concentrations for use in calculating EILs and ESLs. *Asbestos* • Visual observation for the presence of asbestos in the form of ACM during the investigation will be undertaken. Selected fill samples submitted to laboratory for analysis of potential asbestos fibres in soil.
6. Acceptable limits on decision error	There are two main sources of false results which may cause decision errors: • Sampling errors, which occur when the samples collected are not representative of the conditions within the investigation area; and • Measurement errors, which occur during sample collection, handling, preparation, analysis and data reduction.

	False results may lead the decision maker to make the following errors: • Type I: deciding that the site is not contaminated and, therefore, is suitable for the proposed Primary School when the reverse is true; and • Type II: deciding that the site is contaminated and, therefore, is not suitable for the proposed Primary School when the reverse is true. An assessment will be made as to the likelihood of a Type I 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 may be utilised, where applicable, such as 95% Upper Confidence Limit (UCL) calculations. The investigation levels for assessment are nominated in Section 6. A Type II error is less likely and would result in additional investigation which would allow correction of that error.
7. Optimise the design for obtaining data	Based on the previous Steps 1 to 6 of the DQO process, the optimal design for obtaining the required data is presented in the following sections (i.e. proposed field and laboratory programs).

5. Sampling and analysis plan

5.1. Sampling locations

Sample locations were selected in general accordance with the minimum recommended sampling density detailed in the NSW EPA (1995) Contaminated Sites: *Sampling Design Guidelines* for the area being assessed. Fifteen (15) locations were previously sampled in the EIS (2018) ESA and ten (10) additional locations were sampled for this DSI. The total number of samples locations used in the DSI assessment was in excess of the minimum recommended for site characterisation (21 samples) for a 1.1-hectare site.

The location where the TRH exceedance was previously located was targeted using an additional borehole location and the installation of groundwater monitoring wells both up and down gradient from the exceedance. Assessment of potential contamination within soil and groundwater included the following:

- Soil

Drilling of ten (10) boreholes (CBH01 to CBH10) using licensed drillers Terratest Pty Ltd, in the full-time presence of a Coffey Environmental Scientist on the 18th March 2020. Boreholes were advanced using both solid flight auger and split tube sampling to a depth of about 2.0 metres below ground surface (m bgs) ensuring natural soils were intersected at each location. Sample location borehole CBH04 was targeted at the location of the previously sampled (BH2-0.0-0.3) collected by EIS during the 2018 PCA). Sample BH2 reported a TRH-F3 concentration, in exceedance of the relevant NEPM 1999 (2013) Ecological Screening Level for Urban Residential and Public Open Space (2,200 mg/kg vs. 1,300 mg/kg). Boreholes CBH02, CBH06 and CBH07 were terminated due to refusal on weathered sandstone at depths ranging from 1.6 – 1.7m bgs. Groundwater inflow was not observed within the ten selected sampling locations across the site whilst they remained open.

- Groundwater

Three (3) soil borehole sampling locations (CBH03, CBH04 & CBH05) were selected to be advanced in order to install three groundwater monitoring wells (MW01, MW02 & MW03) across the site. Monitoring well MW02 was targeted in the vicinity of the TRH exceedance in fill soils previously identified by EIS during the PCA in 2018. The groundwater monitoring wells were installed both up and down hydraulic gradient of the previous TRH exceedance. Monitoring wells were installed using licensed drillers Terratest Pty Ltd and supervised by a Coffey Environmental Scientist on the 18th March 2020. Monitoring wells were advanced to depths ranging from 3.66 – 4.57m bgs with Groundwater ingress was observed at depths ranging from 1.63 to 2.2m BGS during installation.

The selected soil and groundwater sample locations are presented in Figures 2 & 3 (Appendix – A).

5.2. Sampling methodology

The field investigation works followed the methodology outlined in Table 5-1 (soil) and Table 5-2 (groundwater).

Table 5-1: Soil sampling procedure

Activity	Detail / Comments
Below Ground Service Clearance	Dial-Before-You-Dig (DBYD) service plans for the site and surrounding area were reviewed prior to commencement of intrusive investigation works. Investigation locations were scanned by a suitably qualified and experienced underground services clearance sub-contractor using an electromagnetic detector.
Soil Sampling	Soil samples from ten (10) borehole locations (CBH01 to CBH10) were collected directly from the drill auger. Samples were collected from near surface 0.0-0.2m bgs and then at approximately 0.5m bgs intervals to the base of each borehole.
Soil Logging	Soil samples were logged by a suitably qualified and experienced Coffey scientist 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 1999, 20130. Presence or absence of anthropogenic material and contamination (i.e. odours or staining) is recorded on the geological logs which are presented in Appendix D.
Soil Screening	Soil samples were screened in the field for the presence of ionisable volatile organic compounds (VOCs) using a Photoionization Detector (PID) fitted with a 10.6eV lamp. The PID was bump tested and fresh air calibrated at the start of each day. Calibration certificates are presented in Appendix F. Headspace screening results are recorded geological logs presented in Appendix D.
Sample Handling and Transportation	Sample collection, storage and transport were in general accordance with Coffey's SOP. Soil samples were placed into laboratory prepared and supplied glass jars, fitted with Teflon lined seals to limit possible volatile loss. Sample jars were filled to minimise headspace. Separate samples for asbestos analysis were collected and placed in double zip lock bags. The samples were placed into ice chilled coolers and dispatched to NATA accredited laboratories for analysis under chain of custody (CoC) control. CoC's are included with the laboratory certificates in Appendix H.
QA/QC Samples	To measure the accuracy and precision of the data generated by the field and laboratory procedures for this assessment, Coffey collected and analysed the following quality assurance / quality control (QA/QC) samples: • Two intra-laboratory duplicate soil samples; • Two inter-laboratory triplicate soil samples; • One trip spike sample was included in the transfer of soil samples from Coffey to the laboratory, to assess specific semi-volatile and volatile recoveries; and • One trip blank sample was included in each batch of samples to assess whether any contamination may have been introduced to the samples during shipping and field handling procedures. Trip Blank samples included were damaged during transportation from site to the laboratory.

Table 5-2: Groundwater sampling procedure

Activity	Detail / Comments
Groundwater Well Installation	Three groundwater monitoring wells (MW01 to MW03) were installed on 30 March 2020, to assess groundwater conditions across the site. The installation of groundwater wells was completed in general accordance with Coffey's SOPs and was consistent with relevant parts of Section 8 and 9 of Schedule B2 in the ASC NEPM (2013). Each monitoring well: • Was installed in a 125mm diameter boring by a mechanical drill fitted with a solid flight auger; • Had a 50mm diameter Class PN18 uPVC casing with a 2.5m slotted screen interval upward from the base of the well; • Had 2mm graded sand backfill around the screened interval from and for 0.2m above the top of screen; • Had a hydrated bentonite pellet plug at least 0.3m above the top of the sand backfill; • Was backfilled with fill/clay material bored from the top of the bentonite to finish flush with the ground surface. Following installation, the monitoring wells were developed using a dedicated disposable bailer to remove waste from the installation process. A total of three monitoring well volumes were removed from each well. The monitoring wells were installed to depths ranging from 3.66m to 4.57m. Monitoring wells were screened from 0.5m to total well depth. Construction details of the newly installed groundwater monitoring wells including screen intervals, total well depth is provided in Appendix E.
Groundwater Sampling	One round of groundwater sampling was undertaken on the three newly installed groundwater monitoring wells (MW01, MW02 and MW03) a week following installation to allow for equilibration of SWLs.
Sample Handling and Transportation	Sample collection, storage and transport were in general accordance with Coffey's SOP. Water samples were placed into laboratory prepared containers with appropriate preservatives and zero headspace for samples for volatile analysis. Sample containers were immediately capped and placed on ice in a cool dark ice chest. The samples were placed into ice chilled coolers and dispatched to NATA accredited laboratories for analysis under chain of custody (CoC) control. CoC's are included with the laboratory certificates in Appendix H.
QA/QC Samples	To measure the accuracy and precision of the data generated by the field and laboratory procedures for this assessment, Coffey collected and analysed the following quality assurance / quality control (QA/QC) samples: • One intra-laboratory duplicate soil samples; • One inter-laboratory triplicate soil samples; • One trip spike sample was included in the transfer of soil samples from Coffey to the laboratory, to assess specific semi-volatile and volatile recoveries; and • One trip blank sample was included in each batch of samples to assess whether any contamination may have been introduced to the samples during shipping and field handling procedures.

Decontamination of sampling equipment	Each monitoring well was sampled using disposable bailers. A new disposable bailer was utilised at each monitoring well location to avoid any cross contamination occurring between sample locations. A rinsate sample was not collected for quality control purposes due to no equipment or consumables being re-used between sample locations.

5.3. Analytical Schedule

Soil and groundwater samples were analysed by Eurofins | MGT at Lane Cove West (primary laboratory), and ALS in Smithfield (secondary laboratory). Both laboratories are NATA accredited for the analytes selected.

A selection of primary soil samples were submitted for laboratory analysis for a suite of chemicals of potential concern (COPC) as summarised in Table 5-3. Samples were selected to achieve characterisation of the soils at the Site and targeting indicators of contaminations such as soil staining, noxious odours or elevated PID readings measured during sampling.

Table 5-3: Summary of Soil Analysis

Chemical of Concern	No. Primary Soil Samples
Heavy metals	20
TRH	20
BTEX	20
PAH	20
PCB	20
OCP / OPP	20
Asbestos	8

Notes: Heavy metals (arsenic, cadmium, chromium (IV), copper, lead, mercury (inorganic), nickel, zinc), TRH= total recoverable hydrocarbons, BTEX = benzene, toluene, ethylbenzene, xylenes, PAH= Polycyclic aromatic hydrocarbons, OCP/OPP= Organochlorine/organophosphorus pesticides, PCB= Polychlorinated biphenyls.

Table 5-4: Summary of Groundwater Analysis

Chemical of Concern	No. Primary Groundwater Samples
Heavy metals	3
TRH	3
BTEX	3
PAH	3
PCB	3
OCP / OPP	3

Notes: Heavy metals (arsenic, cadmium, chromium (IV), copper, lead, mercury (inorganic), nickel, zinc), TRH= total recoverable hydrocarbons, BTEX = benzene, toluene, ethylbenzene, xylenes, PAH= Polycyclic aromatic hydrocarbons, OCP/OPP= Organochlorine/organophosphorus pesticides, PCB= Polychlorinated biphenyls.

6. Assessment Criteria

Assessment criteria for the investigation were selected for relevance to the future land use of the proposed development with Health Investigation Level (HIL - A) selected. HIL – A land use described as 'residential with garden/accessible soil (home grown produce <10% fruit and vegetable intake), also includes childcare centres, preschools and primary schools).

The criteria presented below are intended to apply as Tier 1 risk assessment criteria based on certain site-specific characteristics. Where concentrations of a contaminant exceed the generic assessment criteria, then further consideration of the specific exposure pathway is required which may warrant further investigation, assessment or the development of a strategy to mitigate the potential risks identified.

6.1. Soil

6.1.1. Health and Ecological Investigation and Screening Levels

Health and ecological investigation and screening levels for soil presented in Schedule B1 of the ASC NEPM are generally used when selecting assessment criteria to evaluate risk to human health and ecosystems resulting from site contamination.

Health and ecological investigation and screening levels are applicable to the first stage (Tier 1) of site assessment and are used to assist in the iterative development of a Conceptual Site Model (CSM). They are adopted as concentrations of a contaminant above which either further appropriate investigation and/or evaluation will be required, or development of an appropriate management strategy (including remediation).

Health Investigation Levels (HILs) are applicable for assessing human health risk via relevant exposure pathways. HILs were developed for a broad range of metals and organic substances. These are generic to all soil types and apply generally to a depth of 3m below the soil surface for residential sites.

Ecological Investigation Levels (EILs) are associated with selected metals and organic compounds and have been developed for assessing risk to terrestrial ecosystems under residential, open space and commercial/industrial land use scenarios. They apply to the top 2m of accessible soil, which corresponds to the root zone and habitation zone of many species.

Health screening levels (HSLs) have been developed for selected petroleum compounds and fractions and are applicable to assessing human health risk via inhalation after vapour intrusion into indoor air and direct contact with soil and groundwater. These HSLs depend on general soil type (sand, silt and clay mixture), building configurations and land use scenarios.

Similarly, ecological screening levels (ESLs) have been developed for selected petroleum compounds and fractions and are applicable for assessing risk to terrestrial ecosystems. The ESLs broadly apply to coarse and fine-grained soils under various land use scenarios and are applicable to the top 2m of accessible soil.

6.1.2. Health-based criteria

The intended future use of the site is considered consistent with the “Residential A” exposure scenario described in Schedule B7 of the ASC NEPM (2013) which allows for garden / accessible soils and includes dwellings with home grown produce <10% fruit and vegetable intake, (no poultry) also includes childcare centres, preschools and primary schools.

Chemicals with sufficient volatility to pose potential health risks via vapour inhalation pathway; namely TRH F1 and F2 fractions, BTEX and naphthalene concentrations were compared to the soil Health Screening Levels (HSLs) for vapour intrusion applicable to high density residential uses (i.e. HSL A & HSL B) listed in Table 1A(3) in Schedule B1 of the ASC NEPM.

The adopted screening levels apply to a sandy soil.

The HILs for heavy metals, PAH, pesticides and PCBs in soils are selected from relevant values in Table 1A (1) in Schedule B1 of the ASC NEPM. Adopted values for health-based criteria are summarised in Table 6-1.

Table 6-1: Summary of HILs in Soil

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

[1] Laboratory Total Chromium results (or Total Chromium minus Chromium III) will be assessed against the HIL for Chromium VI as an initial screening assessment.
[2] TEQ = Toxicity Equivalent Quotient

The HSLs for TRH, BTEX and naphthalene in soils are summarised in Table 6-2.

Based on the dominant soil texture, HSLs for sandy soils have been adopted.

Table 6-2: Summary of Health Screening Levels in Soil

Chemical	HSL A & B – Residential (for sandy soils)[1] (mg/kg)			HSL-A Direct Contact[2] (mg/kg)	Intrusive Maintenance Worker[2/3] (mg/kg)
	0m to <1m	1m to <2m	2m to <4m		
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_6-C_{10} – BTEX)	45	70	110	4,400	82,000 / NL
F2 (TPH >C_{10}-C_{16} – 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)*

6.1.3. Ecological Investigation and Screening Levels

To assess the impact on ecosystems including site vegetation from contamination within the upper 2m of the subsurface, the ASC NEPM presents Ecological Investigation Levels (EILs) and Ecological Screening Levels (ESLs) for different land uses (e.g. areas of ecological significance, urban residential/public open space, commercial).

The EILs derived for heavy metals in soils are summarised in Table 6-3.

Table 6-3: Summary of EILs in Soil

Chemical	Urban Residential / Public Open Space (mg/kg)		
	Contaminant Limit	Ambient Concentration (4)	EIL
Arsenic	100	5	110
Chromium	190(1)	13	200
Copper	95(2)	28	120
Lead	1,100	163	1,270
Nickel	30(2)	5	40
Zinc	230(3)	122	350
Naphthalene	170	-	170

[1] Based on a (conservative) clay content 1%.

[2] Based on a cation exchange capacity of 5cmol$_c$/kg typical of a granular soil with minor clay.

[3] Based on a cation exchange capacity of 5cmol$_c$/kg typical of a granular soil with minor clay and a pH of 6.5.
[4] EIL = Contaminant Limit + Ambient Background Concentration, rounded.

The ESLs for TRH, BTEX and benzo(a)pyrene in soils from Schedule B1 in the ASC NEPM are summarised in Table 6-4. , ESLs for sandy soils have been adopted.

Table 6-4: Summary of ESLs in Soil

Chemical	ESL – Urban Residential and public open space (for fine grained soils) (mg/kg)
F1 C_6-C_{10}	120
F2 C_{10}-C_{16}	120
F3 >C_{16}-C_{34}	1300
F4 >C_{34}-C_{40}	5600
Benzene	65
Toluene	105
Ethylbenzene	125
Xylenes	45
Benzo(a)pyrene	0.7

6.1.4. Management Limits

In accordance with Section 2.9 of Schedule B1 of the ASC NEPM, consideration of Management Limits for petroleum hydrocarbons has been included to assess the potential for accumulation of explosive vapours, the potential risk to buried infrastructure, or the formation of phase separated hydrocarbons (PSH).

A summary of the adopted management limits for this site is provided in Table 6-5.

Table 6-5: Summary of Site Management Limits

Chemical	Soil Type	Residential, parkland and public open space (mg/kg)
F1: TRH C_6-C_{10}	Fine	700
F2: TRH C_{10}-C_{16}	Fine	1,000
F3: TRH C_{16}-C_{34}	Fine	2,500
F4: TRH C_{34}-C_{40}	Fine	10,000

6.2. Groundwater

6.2.1. Health Based and Fresh Water Quality Criteria

The groundwater investigation levels adopted from criteria presented in Schedule B1 of the ASC NEPM (2013), supplemented with values from ANZG (2018) *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia (ANZG 2018) where required, are considered

applicable for the protection of freshwater species of the receiving waters. It is important to note that these are not threshold values at which an environmental impact is likely to occur if exceeded. Rather, if the Default Guideline Values (DGVs) are exceeded, then further action is required which may include either further site-specific investigations to assess whether or not there is a potentially adverse effect, or the implementation of management/ remedial actions.

It is considered that the fresh water DGV are applicable for investigating contaminant concentrations in groundwater at the site. The basis of the ANZG guidelines is that the DGV values for the protection of 95% of aquatic ecosystems should be used except where contaminants are potentially bio-accumulative, in which case the DGV for protection of 99% of species should be used. Therefore, we have selected DGV for protection of 95% of marine water species for the majority of contaminants for initial comparison purposes.

ANZG (2018) states that there is currently insufficient data to derive high reliability trigger values for some contaminants. For these contaminants, low reliability DGV have been adopted. ANZG (2018) states that there is currently insufficient data to derive a high reliability DGV for TRH but propose a low reliability DGV for TRH of 7µg/L.

This guideline is generally considered by industry to be overly conservative and is also well below the TPH/ TRH detection limit, which most laboratories can achieve. The National Institute for Public Health and the Environment, Netherlands commissioned a report to determine the Serious Risk Concentrations for ecosystems (SRCseco) for Mineral Oil (Total Petroleum Hydrocarbons) (Verbruggen, 2004).

The Serious Risk Concentrations are based on environmental risk limits (ERLs) derived using data on ecotoxicology and environmental chemistry and represent the levels of a substance that present a risk to the ecosystem. The Serious Risk Concentrations are considered to provide a reasonable indication of impact to aquatic ecosystem and, in the absence of locally derived DGV for TRH; the relevant values listed in Table 3, Column 6 in this document have been adopted.

Schedule B1 of the ASC NEPM provides HSLs based on the depth of groundwater and soil type for the site, for various exposure scenarios. For this site the HSLs applicable to “Low and High density residential” land use (HSL-A & B) for sand have been adopted.

Based on the above, the adopted groundwater acceptance criteria are listed in Table 6.8.

Table 6-6: Summary of Groundwater Acceptance Criteria

Contaminant	Guideline		
	NEPM GIL – Fresh Water 95% Maintenance of Ecosystems (mg/L unless otherwise stated)	NEPM HSL-A/HSL -B Low-High Density Residential (Sand) (mg/L unless otherwise stated)	CRC Care HSL Intrusive Maintenance Worker (Shallow Trench) (mg/L unless otherwise stated)
		2m to <4m	0m to <2m
F1 – TRH C6-C10 minus BTEX	LOR	1	-
F2 – TRH C10-C16 minus Naphthalene	LOR	1	-
TRH C6-C9	-	-	-
TRH C10-C36	-	-	-

Contaminant	Guideline		
	NEPM GIL – Fresh Water 95% Maintenance of Ecosystems (mg/L unless otherwise stated)	NEPM HSL-A/HSL -B Low-High Density Residential (Sand) (mg/L unless otherwise stated)	CRC Care HSL Intrusive Maintenance Worker (Shallow Trench) (mg/L unless otherwise stated)
		2m to <4m	0m to <2m
Benzene	0.95	0.8	NL
Toluene	-	NL	NL
Ethylbenzene	-	NL	NL
Total-Xylene	0.35	NL	NL
B(a)P	-	-	-
Naphthalene	0.016	NL	NL
Arsenic	-	-	-
Chromium (III)	-	-	-
Copper	0.014	-	-
Lead	0.034	-	-
Mercury	0.00006	-	-
Nickel	0.11	-	-
Zinc	0.008	-	-
Chlordane	0.03	-	-
DDT	0.006	-	-
Endrin	0.01	-	-
g-BHC (Lindane)	0.2	-	-
Heptachlor	0.01	-	-
Toxaphene	0.0001	-	-
Azinophos methyl	0.02	-	-
Arochlor 1242	0.03	-	-
Arochlor 1254	0.01	-	-

7. Data Quality Indicators

Data Quality Indicators (DQIs) are used to show that the DQOs have been met. DQIs for the project are based on the field and laboratory considerations in the table in NEPM Schedule B2 Appendix B, (NEPC, 2013), which include:

- Completeness – a measure of the amount of useable data (expressed as %) from a data collection activity;
- Comparability – the confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event;
- Representativeness – the confidence (expressed qualitatively) that data are representative of each media present on the site;
- Precision – A quantitative measure of the variability (or reproducibility) of data; and
- Accuracy – a quantitative measure of the closeness of reported data to the true value.
- The QA review will include a check of performance against the DQIs.

The DQIs adopted for this investigation and means by which they will be assessed is discussed in Table 7-1 to Table 7-5.

Table 7-1: Data Quality Indicators (DQIs) - Completeness

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Completeness	Critical locations sampled	Samples collected from all locations with no deviation from the sampling plan, without reasonable justification.	Critical samples analysed according to sampling plan.	Samples were analysed for COPCs (TRH, BTEX, PAH, Metals, OCPs, OPPs, PCBs & Asbestos).
	Samples collected	Samples collected in accordance with Coffey's SOPs during the assessment.	Identified COPCs included.	As above.
	Standard Operating Procedures (SOPs) appropriate and complied with	No departure from Coffey's SOPs without reasonable justification.	Appropriate methods and LORs	Samples were analysed by laboratories NATA accredited, for the analyses to be performed and appropriate methods were used. LORs were less than assessment criteria.

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
	Experienced sampler	Experienced Coffey Environmental Scientists conducted the sampling.	Sample documentation complete	Chain of custody's (COCs) were returned, signed and dated by laboratory. NATA endorsed laboratory certificates were completed in accordance with Schedule B3 of the ASC NEPM. Field logs were in accordance with Coffey SOPs.
	Documentation correct	Samples were handled and transported under appropriate chain of custody (COC) documentation. Coffey kept original COC documentation. Sample Receipt Notifications (SRN) from the laboratory were reviewed to assess that samples were received cool and in good condition. Current calibration certificates for the PID & WQM are provided and the PID instrument was bump tested on a daily basis.	Sample holding times were complied with	Samples were analysed within holding times specified in Schedule B3 of the ASC NEPM.

Table 7-2: Data Quality Indicators (DQIs) - Comparability

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Comparability	Same SOPs used on each occasion	Coffey SOPs were implemented.	Same sample analytical methods used.	The same NATA accredited laboratory was used to undertake analyses of primary and duplicate samples collected for this study. The laboratory used the same analytical methods for each sample for each analytical parameter
	Experienced sampler	Experienced Coffey Environmental Scientists will conduct the sampling.	Same sample LORs	As above
	Climatic conditions (temperature, rainfall, wind etc.)	Sampling for this work was completed in fine sunny weather. Climatic conditions did not cause issues for comparability of data.	Same laboratories	As above
	Same types of samples collected	Samples were collected in the appropriate laboratory supplied container specific to the analyses performed.	Same units	As above

Table 7-3: Data Quality Indicators (DQIs) - Representativeness

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Representativeness	Appropriate media sampled according to sample plan	Soil samples were collected and analysed in accordance with Coffey's SOPs.	Appropriate media sampled according to sample plan	Collected samples were analysed by NATA accredited laboratories.
	All media identified in sample plan	Soil collected and analysed in accordance with Coffey's SOPs.		

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
	SOPs appropriate and complied	Coffey's SOPs were implemented, with the exception of collection of disturbed samples directly from the auger where a potential loss of volatiles could occur. PID readings and analytical results confirmed that volatiles were not detected in the soils samples.	Analysis of field duplicates	Laboratory duplicates were analysed in general accordance with ASC NEPM (2013).

Table 7-4: Data Quality Indicators (DQIs) - Precision

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Precision	SOPs appropriate and complied with	Coffey SOPs were implemented.	Analysis of laboratory duplicates	RPD values for inter-laboratory duplicates and recovery of matrix spikes are acceptable.
	Analysis of field duplicates	As for laboratory considerations	Analysis of field duplicates	Duplicates were analysed at a frequency of greater than: • 5% intra laboratory duplicates; • 5% inter laboratory duplicates. RPDs were calculated and compared to relevant acceptance criteria. 30% for concentrations more than 10 times the LOR and 50% for concentrations less than 10 times the LOR (Standards Australia 1997)

Table 7-5: Data Quality Indicators (DQIs) - Accuracy

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Accuracy	SOP appropriate and complied with	Coffey SOPs were implemented		
	Field blanks	A trip blank sample was collected using laboratory supplied distilled water.	Field blanks	A laboratory prepared trip blank was included for each sample set (i.e. esky) where volatile compounds are requested for analysis (as defined in AS4482.2-1999 and Schedule B2 in the ASC NEPM). Analysis of the trip blank included TRH F1 and BTEX.
	Trip blanks	Because the chemical of concern was potentially volatile, trip blanks prepared by the laboratory were carried into the field and transported with samples to the laboratory.	Method blank	Method blanks were analysed as recommended in Schedule B3 of the ASC NEPM. Results to be less than LOR.
			Laboratory duplicate and Matrix spike	RPD values for laboratory control duplicates and recovery of matrix spikes are within acceptance limits. Where RPDs and matrix spikes do not meet acceptance limits, justification for the use of such data will be required or additional analysis may need to be considered.

8. 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.

8.1. Field QA/QC

QA/QC procedures implemented for this project included:

- Sampling performed by qualified Coffey environmental professionals in accordance with Coffey's SOPs which are based on industry accepted protocols for environmental sampling and are consistent with Schedule B2 of the ASC NEPM; and
- The following intra-laboratory (blind duplicate) and inter-laboratory (split duplicate) samples were collected and submitted for laboratory analysis as listed in Table 8-1.

Table 8-1:Summary of Field Duplicate Samples

Primary Sample	Sample Medium	Blind Duplicate	Split Duplicate
CBH10_0.5-0.6	Soil	QC1	QC2
CBH02_0.0-0.2	Soil	QC3	QC4
MW01	Groundwater	QC1	QC2

As part of the assessment 20 primary soil samples and 3 groundwater samples were collected for analysis.

Two field duplicate and two split duplicate QC samples were analysed from soil samples. In summary, these duplicate samples were completed in accordance with the 1 in 20 sample rates in accordance with Coffey's SOPs and recommendations detailed within Section 8.2 of Australian Standard (AS 4482.1-2005) *Guide to the Investigation and Sampling of Sites with Potentially Contaminated Soil. Part 1: Non-volatile and Semi-volatile Compounds*.

Calculated RPD values from collected primary, blind duplicate and split duplicate QC samples for soil, are listed in Table LR4 of Appendix C.

A review of soil QA/QC results generally reported RPDs below the control limits with the exception of three (3) exceedances including Zinc (56%), DDT (123%) and DDT-DDE-DDD (57%). The measured RPD exceedances are likely due to the heterogenous nature of the fill material as observed during sampling (silty sand and fine to medium sub-angular gravels).

Calculated RPD values from collected primary, duplicate and triplicate QC samples for groundwater, are listed in Table LR5 of Appendix C.

A review of groundwater QA/QC results generally reported RPDs below the control limits with the exception of four (4) Heavy Metal exceedances including Lead (62%), Chromium III+VI (65%), Mercury (67%) and Zinc (40%).

The measured RPD exceedances are most likely attributed to an uneven distribution of concentrations within groundwater samples and could be attributed to the cloudiness observed within groundwater samples where sediments can absorb some metals.

The exceedances of the RPDs are not considered to unduly impact the usability and representativeness of the data as the higher values in the QC pair (primary/blind duplicate) was compared with the site assessment criteria.

A review of Trip Blank (TB) and Trip Spike (TS) samples showed that concentrations were reported to be less than the laboratory LOR. Therefore, the likelihood that cross contamination occurred during transportation of samples from site to the laboratory is unlikely. Trip Blank and Trip Spike results are presented in Table LR6 Appendix C.

8.2. Data quality assessment

Based on an assessment of the field and laboratory QA/QC information, Coffey considers that the data obtained is representative of subsurface conditions at the sampling locations at the time of sampling. Overall, it is assessed that the results are acceptable for the purposes of this investigation.

9. Results

9.1. Site Specific Geology

The general stratigraphy encountered during the intrusive investigations typically comprised a consistent thicknesses of homogenous fill material underlain by residual soil and extremely weathered Hawkesbury sandstone.

The general subsurface conditions observed on-site appeared consistent to the conditions presented in (EIS 2018) report. Subsurface observations during the field investigation are summarised in Table 9-1.

Table 9-1: Site Specific Geology

Material / Origin	Depth to Base of Unit (mbgs)	Thickness of Unit (m)	Material Description
Fill	0.0 to 0.3	0.3	Fill material was encountered in each borehole. A layer of fresh vegetation 0.0-0.1m bgs was observed covering surface soils across the site. Fill material typically comprised a consistent layer of Silty sand, very fine to medium grained sand, dark brown colour with very fine to fine sub-angular gravels. Inclusions observed included grass rootlets, sand and sandstone fines. No odour, soil staining or ACM was observed within the fill layer at the site.
Residual	0.3 to 1.5	1.2	Sandy Clay, fine to medium grained, yellow/red brown in colour, medium plasticity. Silty Clay, fine to medium grained, orange/red in colour, medium plasticity. No odour, soil staining or ACM was observed within the Residual deposits.
Natural	1.1 to 2.0+	undefined	Sandstone, fine to medium grained, light brown/light grey in colour, highly weathered. Sandstone, fine to coarse grained, light grey/white in colour, extremely weathered.

The target sampling depth for each borehole was 2m bgs. Refusal on sandstone (rock) material was encountered in three borehole sample locations (CBH02-1.6-1.7m, CBH02-1.5-1.6m and CBH07-1.7m).

9.2. Site Specific Hydrogeology

The general groundwater characteristics based on observations during assessment are summarised in Table 9-2.

Table 9-2: Site Specific Hydrogeology

Item	Item Description		
Groundwater SWL	1.270 to 1.350 m bgs SWL = Standing Water Level		
Groundwater Occurrence	Groundwater appears to be present as perched unconfined aquifer at the residual soil/weathered rock interface.		
Light Non-Aqueous Phase Liquid (LNAPL)	During the assessment no LNAPL was encountered in the monitoring wells.		
Flow Direction	Groundwater flow was is generally to the north to north-east direction. The PCA (EIS, 2018) suggested groundwater was flowing generally to the north and north-east, consistent to the surrounding topography. Groundwater contours are presented in Figure 3 of Appendix A.		
Beneficial Uses of Groundwater that Require Protection	There was one permanent surface water body located within a 1km radius of the site: Tunks Creek (700m north-north east) Based on the projected flow direction of groundwater underlying the site, potentially impacted groundwater migrating off site would occur towards Trunks Creek or Broken Bay to the north-north east. Coffey note that no registered bores for domestic supply were identified in the vicinity of the site.		
Groundwater Quality Parameters	**Parameter**	**Range**	**Comment**
	Dissolved Oxygen (DO)	2.1 mg/L to 3.5 mg/L	Low to medium oxygen content.
	Redox Potential	-112 mV to 198 mV	Indicates the redox potential of the groundwater varies from reducing to oxidising within the Site.
	Electrical Conductivity (EC)	363 µS/cm to 729 µS/cm	Indicates fresh groundwater.
	pH	4.6 to 5.6	Slightly to moderately acidic pH range.
	Temperature (°C)	20 to 22	-

9.3. Field Screening

Soil samples and groundwater monitoring wells were screened for presence of volatile hydrocarbons using a PID. The PID readings were reported between 0.0 ppm and 0.3 ppm, indicating that volatile hydrocarbons were unlikely to be present at reportable concentrations.

Individual PID readings are reported on the geological logs presented in Appendix D.

9.4. Soil Results

Soil analytical results were compared to the site assessment criteria are provided in Table LR1 (Appendix C). Soil analytical results for preliminary waste classification are provided in Table LR2 (Appendix C). Copies of the laboratory reports are provided in (Appendix H). Sampling locations are shown on Figure 2.

9.4.1. Health-based Investigation and Screening Levels

Soil samples reported chemical concentrations less than the adopted health-based investigation and screening levels in samples analysed.

The soil samples analysed reported pesticide chemical concentrations below the laboratory limit of reporting (LOR), with the exception of concentrations of DDT+DDE+DDD reported in samples (CBH02_0.0-0.2, CBH03_0.0-0.2, CBH04_0.0-0.2, CBH05_0.0-0.2, CBH06_0.0-0.2, CBH08_0.0-0.2 and CBH09_0.0-0.2). These concentrations were below the adopted HIL A criteria.

A summary of health investigation and screening level chemical concentrations is presented in Table LR1 (Appendix C).

9.4.2. Ecological Investigation and Screening Levels

The soil samples reported chemical concentrations less than the adopted ecological investigation and screening levels.

A summary of ecological chemical concentrations is presented in Table LR1 (Appendix C)

9.4.3. Management Limits

Soil samples reported chemical concentrations below the adopted management limits.

A summary of Management Limit chemical concentrations is presented in Table LR1 (Appendix C)

9.4.4. Asbestos

Eight (8) selected soil samples were analysed for the presence/absence of asbestos fibres in soil.

Each sample analysed reported no presence of asbestos in soil. A summary of asbestos in soil results in presented in Table LR1 (Appendix C).

9.5. Preliminary Waste Classification

A preliminary in-situ waste classification was undertaken using analytical soil data reported following the laboratory analysis of twenty (20) soil samples for waste classification purposes.

STEP 1: Is the Waste Special Waste?	No. Eight (8) of the twenty (20) primary samples collected were analysed for the absence/presence of asbestos in soil. All samples were reported indicating the absence of asbestos.
STEP 2: Is the Waste Liquid Waste?	No
STEP 3: Is the Waste Pre-classified?	No
STEP 4: Does the waste possess hazardous characteristics	No
STEP 5: Chemical characterisation of the soil materials	The analysis of twenty (20) soil samples reported concentrations of COPC's below the respective CT1 assessment threshold. Results are tabulated in Table LR2 – (Appendix C).
STEP 6: Is the waste putrescible or non-putrescible?	Non-putrescible
Waste Classification Conclusion	Based on the laboratory results and field observations, it is assessed that the soil has a classification **General Solid Waste (CT1) – (non-putrescible).**

Based analytical results provided in the (EIS, 2018) PCA and data collected by Coffey during the DSI the fill material to a depth of about 0.4m bgs, would have a preliminary classification of **General Solid Waste CT1 (GSW).**

Coffey notes that deeper lying residual soils (0.3 – 1.5m Bgs) and natural soils (1.1 – 2m+ Bgs) at the site may have potential for reuse opportunities as either Excavated Natural Material (ENM) and or Virgin Excavated Natural Material (VENM). These classifications may be given pending further assessment once civil works commence.

Coffey notes that the in-situ waste classification is preliminary only. Excavations during development works may reveal soil conditions that differ from those encountered during the in-situ assessment, which may require further assessment prior to offsite disposal. An unexpected find protocol (UEF) should be implemented during excavation works at the site as stated in Section 12 of this report.

A summary of Waste classification chemical analytical concentrations is presented in Table LR2 Appendix C.

9.6. Groundwater Results

Groundwater analytical results compared to the site criteria are provided in Table LR3 (Appendix C). Copies of the NATA accredited laboratory reports are provided in (Appendix H). Sampling locations are provided in Figure 3 of (Appendix A).

9.6.1. Fresh Water Ecosystem and Health Screening Levels

A comparison of groundwater analytical results against the adopted Fresh Water Quality criteria are provided in Table LR3 of Appendix C. Elevated concentrations exceeding HSLs were not reported. Analytical results reported some Heavy Metal analyte concentrations above the adopted GIL Freshwater criteria are listed below. Other groundwater COPCs analysed were reported below the adopted site criteria.

GIL exceedances reported for heavy metal analytes in each monitoring well sampled and are listed below:

- MW01: Cadmium (0.0012mg/L), Cooper (0.14mg/L), Lead (0.16mg/L), Nickel (0.099mg/L) and Zinc (0.56mg/L);
- MW02: Cadmium (0.0003mg/L), Copper (0.26mg/L), Lead (0.25mg/L), Mercury (0.0014mg/L), Nickel (0.044mg/L) and Zinc (0.4mg/L); and
- MW03: Copper (0.009mg/L), Lead (0.018mg/L) and Zinc (0.042mg/L).

A comparison of heavy metal concentrations reported in up-gradient and down-gradient monitoring wells show that comparatively, detectable heavy metals (cadmium, copper, mercury, lead, nickel and zinc) are similar and therefore are likely to be representative of background metal concentrations associated with former agricultural use across the site. The heavy metal exceedances in groundwater identified on-site are most likely attributed to regional influences and the likelihood that the site alone has contributed materially to heavy metal contamination in groundwater is low.

10. Discussion

10.1. Conceptual Site Model

Based on the results, the conceptual site model (CSM)has been updated to reflect identified COC's. These are included in Tables 7-1 to 7-3.

Table 10-1: Potential Areas and Chemicals of Environmental Concern

AEC	Contaminating Activity	Identified COCs	Likelihood of Contamination*	Relevant Samples Targeting AEC
Entire Site	Imported fill of unknown origin	Heavy Metals, TRH, BTEX, PAH, PCB, Asbestos	Low	All samples (Asbestos 8 locations only)
Ground Water	Impacted Groundwater from regional activities	Heavy Metals	Low to Medium	MW01, MW02 and MW03

Table 10-2: Affected media, receptors and transport mechanisms

Consideration	Information
Source of Contamination	Shallow soil – fill material.
Transport Mechanisms & Exposure Pathways	Direct dermal contact with soil and groundwater Ingestion of soil and groundwater Inhalation of soil vapours and airborne dusts Ecological impact to soils and transitory wildlife Offsite impacts in surface water and groundwater
Receptors of Contamination	***Construction/maintenance workers*** Exposure via dermal contact and ingestion with soil and groundwater. Exposure via secondary inhalation of airborne dusts. ***Future Site Users*** Dependent on the final configuration of future development. Potential exists for exposure via dermal contact with soil and ingestion of soil and exposure via secondary inhalation of airborne dusts. Given the depth to groundwater and low concentrations of COPCs, an exposure pathway to future users doesn't exist ***Ecological Receptors*** The primary ecological receptors are soil biota and transitory wildlife and proposed landscaped areas. and soil and groundwater environments beneath the site and their associated ecosystems. ***Groundwater*** Given concentrations of COPC in site soils were below the HIL/HSL A and EIL/ESL Urban Residential and Open Space criteria, the potential impact to groundwater is low from soil is low. It is unlikely that groundwater is impacting surface water receptors given the distance to the nearest discharge zone (11km to Broken Bay) ***Surface Water – Tunks Creek*** Lateral transport of surface water and discharge of stormwater at the nearest surface water receptor – Tunks Creek (700m north-east) of the site. Direct impact from the site soils would be expected to be low given concentrations of COPC were below the HIL/HSL A and EIL/ESL Urban Residential and Open Space criteria.

Table 10-3: Summary of identified key potential exposure pathways

Receptor	Exposure Pathway	Comment
Construction/ Maintenance Workers	In Complete	There was a potential for workers conducting subsurface works to be exposed to soils containing potential contaminants via dermal contact, ingestion of soils and groundwater. Given that there are no exceedances of COPC in soil, or groundwater, apart from heavy metals which were considered a reflection of the regional groundwater quality, the exposure pathway is considered incomplete.
Future site users	Incomplete	Future site users during routine activity on the site will not be exposed to soils or groundwater containing potential contaminants via dermal contact, ingestion and inhalation pathways. Given no exceedances of COPC in soil, the risk presented to human health and ecological receptors is low and the pathway is considered incomplete.
Soil Biota and Transitory Wildlife and plants	Incomplete	Based on the low concentrations of COPCs, a complete pathway to ecological receptors doesn't not exist. The previous elevated concentration of TRH in the EIS 2018 PCA is not considered representative and is probably a false positive (see Section 10.4)
Groundwater	In complete	Given concentrations of COPC examined in site soils were below the HIL/HSL A and EIL/ESL Urban Residential and Open Space criteria, the potential onsite impact to groundwater quality was low. Concentrations in groundwater were below the adopted criteria apart from heavy metals which were considered a reflection of the regional groundwater quality and not directly related to site use. The offsite exposure pathway is considered incomplete.
Surface Water	In complete	Given concentrations of COPC examined in site soils were below the HIL/HSL A and EIL/ESL Urban Residential and Open Space criteria, the surface water exposure pathway is considered incomplete.

10.2. Land and Groundwater Use suitability

Coffey's assessment of soil and groundwater identified no unacceptable contamination across the site with potential to pose an unacceptable health risk to future site users considering the proposed construction of the New Hope School and future use of the site as a primary school facility.

The EIL exceedance identified in the PCA (EIS 2018) in borehole BH02 was targeted during the assessment with the advancement of CBH04 in the vicinity. Sample CBH04-0.0-0.2 reported TRH fractions and BTEX analytes below the LORs. Sample CBH04-1.9-2.0 was collected deeper in the soil profile to ensure the exceedance previously identified had not leached into the residual and natural soils at the site, also reported analytes below the relevant LOR.

No soil samples reported concentrations of analytes exceeding the Residential HILs/HSLs - A criteria. No soil samples reported concentrations exceeding the EIL/ESL Urban residential/public open space criteria.

No groundwater samples reported concentrations of analytes exceeding adopted HSLs. Analytical results reported some heavy metal analyte concentrations above the adopted Freshwater GIL criteria. These exceedances are likely to be representative of general background metal concentrations in the regional groundwater from past agricultural practices.

Based on the fact that no TRH contamination was encountered in either the fill, natural soil or groundwater, it is concluded that the previous elevated concentration of TRH in the EIS 2018 PCA is not representative of the data set and was possibly a false positive. No further assessment of ecological risk is required at this stage.

10.3. Preliminary Waste Classification

Based on a comparison of the results of the waste classification, the fill to a depth of about 0.4m bgs would have a preliminary classification of **General Solid Waste**.

11. Conclusions and recommendations

Based on the results presented in the previous investigation (EIS 2018) and the results provided in the DSI, Coffey considers that no unacceptable health or ecological risks attributable to land and groundwater contamination was identified at the site, and that the site is suitable for the proposed development.

The TRH fraction exceedance previously observed within fill soils around sample location BH2 was not identified during soil and groundwater investigations. As TRH results in the fill, natural soil and groundwater, were below the laboratory limit of reporting in each sample tested, the previous TRH result is not considered representative and was possibly a false positive. No further assessment of ecological risk is required at this stage.

Coffey recommends that prior to the commencement of earthworks and site redevelopment, an appropriate Construction Environmental Management Plan is prepared by the primary contractor to manage environmental risk posed to construction workers, and to the surrounding public and environment, by construction works and to manage waste in accordance with appropriate New South Wales statutes. Coffey also recommends inclusion of an appropriate unexpected finds protocol (UFP) within this Plan, to provide a procedure for emergency response should visible ACM material, or any other unknown contamination, be uncovered during site redevelopment.

12. References

- National Environment Protection (Assessment of Site Contamination) Measure (ASC NEPM) 2013;
- NSW Acid Sulfate Soil Management Advisory Committee (ASSMAC) (1998) Acid Sulfate Soil Manual;
- ANZECC & ARMCANZ (2000) *Australia and New Zealand Guidelines for Fresh and Marine Water Quality;*
- NSW Department of Primary Industries, Office of Water website (http://allwaterdata.water.nsw.gov.au/water.stm);
- NSW DEC (2007) Contaminated Sites: Guidelines for the Assessment and Management of Groundwater Contamination;
- NSW EPA (1995) Contaminated Sites: Sampling Design Guidelines;
- Friebel, E and Nadebaum, P (2011) CRC Care Technical Report Health Screening Levels for Petroleum Hydrocarbons in Soil and Groundwater;
- Environmental Investigation Services (2018) Environmental Site Assessment for Proposed New Hope School at 9-15 Quarry Road, Dural (Reference No: Ref E31997KBrpt)

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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 reviewed 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 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.

Appendix A - Figures

revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE			

MAP PROJECTION: GDA2020 MGA ZONE 56

25 0 50 100

Scale (metres) 1:2500

drawn	SB / AW
approved	-
date	01/05/2020
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client: PACIFIC HILLS CHRISTIAN SCHOOL

project: DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL
9 - 15 QUARRY ROAD, DURAL, NSW

title: SITE LOCATION PLAN

project no: 754-NTLEN272143-R01 | figure no: FIGURE 1 | rev: A

PLOT DATE: 1/05/2020 9:25:16 AM DWG FILE: F:\1. PROJECTS\1. SYDNEY\NOTHER OFFICES\NTL-ENNTLEN272143\CAD\754-NTLEN272143-R01.DWG

LEGEND

- SITE BOUNDARY
- APPROXIMATE BOREHOLE LOCATION
- FILL SAMPLE LOCATION (EIS 2018)
- (0.1m) SOIL DEPTH (m)

revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE			

MAP PROJECTION: GDA2020 MGA ZONE 56

10 0 10 30 50

Scale (metres) 1:1000

drawn	SB / AW
approved	-
date	01/05/2020
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client: PACIFIC HILLS CHRISTIAN SCHOOL

project: DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL
9 - 15 QUARRY ROAD, DURAL, NSW

title: BOREHOLE SAMPLE LOCATION PLAN

project no: 754-NTLEN272143-R01 | figure no: FIGURE 2 | rev: A

PLOT DATE: 1/05/2020 9:22:49 AM DWG FILE: F:\1. PROJECTS\1. SYDENEN\OTHER OFFICES\NTL-EN\NTLEN272143\CAD\754-NTLEN272143-R01.DWG

PLOT DATE: 1/05/2020 9:23:29 AM DWG FILE: F:\1. PROJECTS\1. SYDENEN\OTHER OFFICES\NTL-EN\NTLEN272143\CAD\754-NTLEN272143-R01.DWG

revision	no.	description	drawn	approved	date
	A	ORIGINAL ISSUE			

MAP PROJECTION: GDA2020 MGA ZONE 56

10 0 10 30 50

Scale (metres) 1:1000

drawn	SB / AW
approved	-
date	01/05/2020
scale	AS SHOWN
original size	A3

coffey
A TETRA TECH COMPANY

client: PACIFIC HILLS CHRISTIAN SCHOOL

project: DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL
9 - 15 QUARRY ROAD, DURAL, NSW

title: GROUNDWATER FLOW DIRECTION AND MONITORING WELL PLAN

project no: 754-NTLEN272143-R01 | figure no: FIGURE 3 | rev: A

Appendix B - Site Photo Summary

	
Photo 1: View Southeast - Site conditions looking towards Pacific Hills Christian School staff carpark	**Photo 2:** View West – View observed along the site's northern boundary perimeter
	
Photo 3: View North – Ground conditions observed during Groundwater Monitoring Event	**Photo 4:** View South – Southern site boundary with adjacent residential properties observed in background

Photo 5: View West – Adjacent market garden buisiness

Photo 7: Soil profile CBH01 - 0.5 - 1.1m bgs

Photo 6: Topsoil Profile – CBH01 - 0.0 – 0.22m bgs

Photo 8: CBH10 soil conditions

Photo 9: Soil profile CBH07 - 0.5 -0.6m bgs

Photo 11: Sandstone encountered at CBH06

Photo 10: CBH09 - 1.0 -1.1m bgs soil conditions

Photo 12: Sandstone encountered at CBH02

	
Photo 13: Monitoring Well MW01 prior to backfill	**Photo 14:** CBH05 - 1.9 -2.0m bgs soil conditions

Appendix C - Analytical Laboratory Reports

Table LR1
NEPM - Soil Analytical Results
DSI - Proposed New Hope School
754-NTLEN272143

Method_Type	ChemName	Units	EQL	NEPM 2013 HILs Residential A Soil	HSL Residential A & B Soil 0 to <1.0m	HSL Residential A & B Soil 1 to <2.0m	NEPM 2013 EIL/Urban Residential - Public Open Space	NEPM 2013 ESLs Urban residential and public open space, Fine Soil	NEPM 2013 Mgmt Limits Residential, parkland and public open space, Fine Soil	Field_ID	CBH01_0.0-0.2	CBH01_0.5-0.6	CBH02_0.0-0.2	CBH02_0.5-0.6	CBH03_0.0-0.2	CBH03_1.0-1.1	CBH04_0.0-0.2	CBH04_1.9-2.0	CBH05_0.0-0.2	CBH05_0.5-0.6
										Sampled_Date	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20
Asbestos	Asbestos	P/A	-								Absent	-	Absent	-	Absent	-	Absent	-	Absent	-
Heavy Metal	Arsenic	mg/kg	2	100			100				5.2	17	9.9	13	6.8	<2	9.8	9	5.9	11
	Cadmium	mg/kg	0.4	20							<0.4	<0.4	0.5	<0.4	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
	Chromium	mg/kg	5				190				12	26	22	31	19	6.6	22	13	15	30
	Copper	mg/kg	5	6000			95				12	19	41	12	33	<5	17	9.4	29	5.8
	Lead	mg/kg	5	300			1100				14	21	20	22	16	17	22	22	15	19
	Mercury	mg/kg	0.1	40							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	mg/kg	5	400			30				<5	<5	<5	<5	6	<5	<5	<5	<5	<5
	Zinc	mg/kg	5	7400			70				20	7.8	25	5.4	31	<5	15	15	21	6.8
Inorganic	Moisture Content (dried @ 103°C)	%	1								22	18	19	21	17	14	23	7.7	22	20
OCP	4,4-DDE	mg/kg	0.05								<0.05	<0.05	0.15	<0.05	0.22	<0.05	0.12	<0.05	0.09	<0.05
	a-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Aldrin	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Aldrin + Dieldrin	mg/kg	0.05	6							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	b-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Chlordane	mg/kg	0.1	50							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	d-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDD	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDT	mg/kg	0.05				180				<0.05	<0.05	0.21	<0.05	0.16	<0.05	0.07	<0.05	0.06	<0.05
	DDT+DDE+DDD	mg/kg	0.05	240							<0.05	<0.05	0.36	<0.05	0.38	<0.05	0.19	<0.05	0.15	<0.05
	Dieldrin	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan I	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan II	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan sulphate	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin	mg/kg	0.05	10							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin aldehyde	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin ketone	mg/kg	0.05								<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	g-BHC (Lindane)	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor	mg/kg	0.05	6							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorobenzene	mg/kg	0.05	10							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Methoxychlor	mg/kg	0.2	300							<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toxaphene	mg/kg	1	20							<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Vic EPA IWRG 621 OCP (Total)*	MG/KG	0.1								<0.2	<0.2	0.36	<0.2	0.38	<0.2	<0.2	<0.2	<0.2	<0.2
	Vic EPA IWRG 621 Other OCP (Total)*	MG/KG	0.1								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
OPP	Azinophos methyl	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Bolstar (Sulprofos)	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorfenvinphos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos	mg/kg	0.2	160							<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos-methyl	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Coumaphos	mg/kg	2								<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Demeton-O	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Demeton-S	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Diazinon	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Dichlorvos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Dimethoate	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Disulfoton	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	EPN	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethoprop	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fenitrothion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fensulfothion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fenthion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Malathion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Merphos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Methyl parathion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Mevinphos (Phosdrin)	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Monocrotophos	mg/kg	2								<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Naled (Dibrom)	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Omethoate	mg/kg	2								<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Parathion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Phorate	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Pirimiphos-methyl	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Pyrazophos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ronnel	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Terbufos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Trichloronate	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Tetrachlorvinphos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Tokuthion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table LR1
NEPM - Soil Analytical Results
DSI - Proposed New Hope School
754-NTLEN272143

									Field_ID	CBH01_0.0-0.2	CBH01_0.5-0.6	CBH02_0.0-0.2	CBH02_0.5-0.6	CBH03_0.0-0.2	CBH03_1.0-1.1	CBH04_0.0-0.2	CBH04_1.9-2.0	CBH05_0.0-0.2	CBH05_0.5-0.6
									Sampled_Date	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20
Method_Type	ChemName	Units	EQL	NEPM 2013 HILs Residential A Soil	HSL Residential A & B Soil 0 to <1.0m	HSL Residential A & B Soil 1 to <2.0m	NEPM 2013 EIL/Urban Residential - Public Open Space	NEPM 2013 ESLs Urban residential and public open space, Fine Soil	NEPM 2013 Mgmt Limits Residential, parkland and public open space, Fine Soil											
Organic	Naphthalene	mg/kg	0.5		3	NL	100			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	F2-NAPHTHALENE	mg/kg	50		110	540				<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C6 - C9	mg/kg	20							<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10 - C40 (Sum of total)	mg/kg	100							100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C6-C10 less BTEX (F1)	mg/kg	20		45	70				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10-C16	mg/kg	50					120	1000	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C16-C34	mg/kg	100					1300	3500	100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C34-C40	mg/kg	100					5600	10000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C6 - C10	mg/kg	20					180	800	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
PAH	Acenaphthene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Anthracene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)anthracene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5					0.7		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound) *	MG/KG	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (medium bound) *	MG/KG	0.5							0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Benzo(a)pyrene TEQ (upper bound) *	MG/KG	0.5							1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Benzo(g,h,i)perylene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Chrysene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[b+j]fluoranthene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	mg/kg	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-c,d)pyrene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	mg/kg	0.5				100			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pyrene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total PAHs	mg/kg	0.5	300						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PCB	Arochlor 1221	mg/kg	0.1							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Aroclor 1016	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1232	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1242	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1248	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1254	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1260	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	PCBs (Sum of total)	mg/kg	0.5	1						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPH	C10 - C14	mg/kg	20							<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C15 - C28	mg/kg	50							65	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C29 - C36	mg/kg	50							61	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C10 - C36 (Sum of total)	mg/kg	50							126	<50	<50	<50	<50	<50	<50	<50	<50	<50
Volatile	Benzene	mg/kg	0.1		0.5	0.5		65		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1		55	NL		125		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1		160	220		105		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylene (m & p)	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Xylene (o)	mg/kg	0.1							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylene Total	mg/kg	0.3		40	60		45		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3

Result	Exceeds NEPM 2013 EIL/Urban Residential - Public Open Space
Result	Exceeds NEPM 2013 ESLs Urban residential and public open space, Fine Soil
Result	Exceeds NEPM 2013 HILs Residential A Soil
Result	Exceeds NEPM 2013 Mgmt Limits Residential, parkland and public open space, Fine Soil
Result	Exceeds HSLs Residential A & B Soil 0 to <2.0m

Notes:

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

Asbestos Presence **(P)** / Abesence **(A)**

Table LR1
NEPM - Soil Analytical Results
DSI - Proposed New Hope School
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Method_Type	ChemName	Units	EQL	NEPM 2013 HILs Residential A Soil	HSL Residential A & B Soil 0 to <1.0m	HSL Residential A & B Soil 1 to <2.0m	NEPM 2013 EIL/Urban Residential - Public Open Space	NEPM 2013 ESLs Urban residential and public open space, Fine Soil	NEPM 2013 Mgmt Limits Residential, parkland and public open space, Fine Soil	Field_ID	CBH06_0.0-0.2	CBH06_1.0-1.1	CBH07_0.5-0.6	CBH07_1.0-1.1	CBH08_0.0-0.2	CBH08_1.0-1.1	CBH09_0.0-0.2	CBH09_0.5-0.6	CBH10_0.5-0.6	CBH10_1.0-1.1
										Sampled_Date	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20
Asbestos	Asbestos	P/A	-								Absent	-	-	-	Absent	-	Absent	-	-	-
Heavy Metal	Arsenic	mg/kg	2	100			100				5.8	4.2	5.4	3	2.9	4.5	12	9.6	11	11
	Cadmium	mg/kg	0.4	20							0.7	<0.4	<0.4	<0.4	0.8	<0.4	0.7	<0.4	<0.4	<0.4
	Chromium	mg/kg	5				190				15	7.8	13	7.9	9	20	28	23	24	13
	Copper	mg/kg	5	6000			95				39	<5	5	<5	37	<5	83	<5	9.5	<5
	Lead	mg/kg	5	300			1100				18	9.2	30	23	18	13	28	16	18	20
	Mercury	mg/kg	0.1	40							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	mg/kg	5	400			30				<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Zinc	mg/kg	5	7400			70				40	<5	<5	<5	27	<5	28	<5	7.4	<5
Inorganic	Moisture Content (dried @ 103°C)	%	1								27	15	13	12	28	13	17	20	21	15
OCP	4,4-DDE	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	0.26	<0.05	0.65	<0.05	0.05	<0.05
	a-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Aldrin	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Aldrin + Dieldrin	mg/kg	0.05	6							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	b-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Chlordane	mg/kg	0.1	50							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	d-BHC	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDD	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDT	mg/kg	0.05				180				0.12	<0.05	<0.05	<0.05	0.21	<0.05	0.45	<0.05	<0.05	<0.05
	DDT+DDE+DDD	mg/kg	0.05	240							0.12	<0.05	<0.05	<0.05	0.47	<0.05	1.1	<0.05	0.05	<0.05
	Dieldrin	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan I	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan II	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan sulphate	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin	mg/kg	0.05	10							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin aldehyde	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin ketone	mg/kg	0.05								<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	g-BHC (Lindane)	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor	mg/kg	0.05	6							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05								<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorobenzene	mg/kg	0.05	10							<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Methoxychlor	mg/kg	0.2	300							<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toxaphene	mg/kg	1	20							<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Vic EPA IWRG 621 OCP (Total)*	MG/KG	0.1								<0.2	<0.2	<0.2	<0.2	0.47	<0.2	1.1	<0.2	<0.2	<0.2
	Vic EPA IWRG 621 Other OCP (Total)*	MG/KG	0.1								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
OPP	Azinophos methyl	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Bolstar (Sulprofos)	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorfenvinphos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos	mg/kg	0.2	160							<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos-methyl	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Coumaphos	mg/kg	2								<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Demeton-O	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Demeton-S	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Diazinon	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Dichlorvos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Dimethoate	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Disulfoton	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	EPN	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethoprop	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fenitrothion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fensulfothion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fenthion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Malathion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Merphos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Methyl parathion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Mevinphos (Phosdrin)	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Monocrotophos	mg/kg	2								<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Naled (Dibrom)	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Omethoate	mg/kg	2								<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Parathion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Phorate	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Pirimiphos-methyl	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Pyrazophos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ronnel	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Terbufos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Trichloronate	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Tetrachlorvinphos	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Tokuthion	mg/kg	0.2								<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

coffey
A TETRA TECH COMPANY

Table LR1
NEPM - Soil Analytical Results
DSI - Proposed New Hope School
754-NTLEN272143

									Field_ID	CBH06_0.0-0.2	CBH06_1.0-1.1	CBH07_0.5-0.6	CBH07_1.0-1.1	CBH08_0.0-0.2	CBH08_1.0-1.1	CBH09_0.0-0.2	CBH09_0.5-0.6	CBH10_0.5-0.6	CBH10_1.0-1.1
									Sampled_Date	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20
				NEPM 2013 HILs Residential A Soil	HSL Residential A & B Soil 0 to <1.0m	HSL Residential A & B Soil 1 to <2.0m	NEPM 2013 EIL/Urban Residential - Public Open Space	NEPM 2013 ESLs Urban residential and public open space, Fine Soil	NEPM 2013 Mgmt Limits Residential, parkland and public open space, Fine Soil										
Method_Type	**ChemName**	**Units**	**EQL**																
Organic	Naphthalene	mg/kg	0.5		3	NL	100			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	F2-NAPHTHALENE	mg/kg	50		110	540				<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C6 - C9	mg/kg	20							<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10 - C40 (Sum of total)	mg/kg	100							<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C6-C10 less BTEX (F1)	mg/kg	20		45	70				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10-C16	mg/kg	50					120	1000	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C16-C34	mg/kg	100					1300	3500	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C34-C40	mg/kg	100					5600	10000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C6 - C10	mg/kg	20					180	800	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
PAH	Acenaphthene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Anthracene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)anthracene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5					0.7		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound) *	MG/KG	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (medium bound) *	MG/KG	0.5							0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Benzo(a)pyrene TEQ (upper bound) *	MG/KG	0.5							1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Benzo(g,h,i)perylene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Chrysene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[b+j]fluoranthene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	mg/kg	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-c,d)pyrene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	mg/kg	0.5				100			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pyrene	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total PAHs	mg/kg	0.5	300						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PCB	Arochlor 1221	mg/kg	0.1							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Aroclor 1016	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1232	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1242	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1248	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1254	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1260	mg/kg	0.5							<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	PCBs (Sum of total)	mg/kg	0.5	1						<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPH	C10 - C14	mg/kg	20							<20	<20	<20	<20	<20	<20	<20	<20	<20	23
	C15 - C28	mg/kg	50							<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C29 - C36	mg/kg	50							<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C10 - C36 (Sum of total)	mg/kg	50							<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Volatile	Benzene	mg/kg	0.1		0.5	0.5		65		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1		55	NL		125		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1		160	220		105		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylene (m & p)	mg/kg	0.2							<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Xylene (o)	mg/kg	0.1							<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylene Total	mg/kg	0.3		40	60		45		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3

Result	Exceeds NEPM 2013 EIL/Urban Residential - Public Open Space
Result	Exceeds NEPM 2013 ESLs Urban residential and public open space, Fine Soil
Result	Exceeds NEPM 2013 HILs Residential A Soil
Result	Exceeds NEPM 2013 Mgmt Limits Residential, parkland and public open space, Fine Soil
Result	Exceeds HSLs Residential A & B Soil 0 to <2.0m

Notes:

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

Asbestos Presence **(P)** / Abesence **(A)**

Table LR2
Waste Classification Results
DSI - New Hope School
754-NTLEN272143

					Field_ID	CBH01_0.0-0.2	CBH01_0.5-0.6	CBH02_0.0-0.2	CBH02_0.5-0.6	CBH03_0.0-0.2	CBH03_1.0-1.1	CBH04_0.0-0.2	CBH04_1.9-2.0	CBH05_0.0-0.2	CBH05_0.5-0.6
					Sampled_Date-Time	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20
Method_Type	**ChemName**	**Units**	**EQL**	CT1 NSW 2014 General Solid Waste (No Leaching)	CT2 NSW 2014 Restricted Solid Waste (No Leaching)										
Heavy Metal	Arsenic	mg/kg	2	100	400	5.2	17	9.9	13	6.8	<2	9.8	9	5.9	11
	Cadmium	mg/kg	0.4	20	80	<0.4	<0.4	0.5	<0.4	0.4	<0.4	<0.4	<0.4	<0.4	<0.4
	Chromium	mg/kg	5	100	400	12	26	22	31	19	6.6	22	13	15	30
	Copper	mg/kg	5			12	19	41	12	33	<5	17	9.4	29	5.8
	Lead	mg/kg	5	100	400	14	21	20	22	16	17	22	22	15	19
	Mercury	mg/kg	0.1	4	16	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	mg/kg	5	40	160	<5	<5	<5	<5	6	<5	<5	<5	<5	<5
	Zinc	mg/kg	5			20	7.8	25	5.4	31	<5	15	15	21	6.8
Inorganic	Moisture Content (dried @ 103°C)	%	1			22	18	19	21	17	14	23	7.7	22	20
OCP	4,4-DDE	mg/kg	0.05			<0.05	<0.05	0.15	<0.05	0.22	<0.05	0.12	<0.05	0.09	<0.05
	a-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Aldrin	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Aldrin + Dieldrin	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	b-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Chlordane	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	d-BHC	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDD	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDT	mg/kg	0.05			<0.05	<0.05	0.21	<0.05	0.16	<0.05	0.07	<0.05	0.06	<0.05
	DDT+DDE+DDD	mg/kg	0.05			<0.05	<0.05	0.36	<0.05	0.38	<0.05	0.19	<0.05	0.15	<0.05
	Dieldrin	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan I	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan II	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan sulphate	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin aldehyde	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin ketone	mg/kg	0.05			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	g-BHC (Lindane)	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorobenzene	mg/kg	0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Methoxychlor	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toxaphene	mg/kg	1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Vic EPA IWRG 621 OCP (Total)*	MG/KG	0.1			<0.2	<0.2	0.36	<0.2	0.38	<0.2	<0.2	<0.2	<0.2	<0.2
	Vic EPA IWRG 621 Other OCP (Total)*	MG/KG	0.1			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
OPP	Azinophos methyl	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Bolstar (Sulprofos)	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorfenvinphos	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos	mg/kg	0.2	4	16	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos-methyl	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Coumaphos	mg/kg	2			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Demeton-O	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Demeton-S	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Diazinon	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Dichlorvos	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Dimethoate	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Disulfoton	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	EPN	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethion	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethoprop	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fenitrothion	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fensulfothion	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fenthion	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Malathion	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Merphos	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Methyl parathion	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Mevinphos (Phosdrin)	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Monocrotophos	mg/kg	2			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Naled (Dibrom)	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Omethoate	mg/kg	2			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Parathion	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Phorate	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Pirimiphos-methyl	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Pyrazophos	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ronnel	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Terbufos	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Trichloronate	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Tetrachlorvinphos	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Tokuthion	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Organic	Naphthalene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	F2-NAPHTHALENE	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C6 - C9	mg/kg	20	650	2600	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10 - C40 (Sum of total)	mg/kg	100			100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C6-C10 less BTEX (F1)	mg/kg	20			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20

					Field_ID	CBH01_0.0-0.2	CBH01_0.5-0.6	CBH02_0.0-0.2	CBH02_0.5-0.6	CBH03_0.0-0.2	CBH03_1.0-1.1	CBH04_0.0-0.2	CBH04_1.9-2.0	CBH05_0.0-0.2	CBH05_0.5-0.6
					Sampled_Date-Time	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20
Method_Type	ChemName	Units	EQL	CT1 NSW 2014 General Solid Waste (No Leaching)	CT2 NSW 2014 Restricted Solid Waste (No Leaching)										
	C10-C16	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C16-C34	mg/kg	100			100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C34-C40	mg/kg	100			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C6 - C10	mg/kg	20			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
PAH	Acenaphthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	0.8	3.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound) *	MG/KG	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (medium bound) *	MG/KG	0.5			0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Benzo(a)pyrene TEQ (upper bound) *	MG/KG	0.5			1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Benzo(g,h,i)perylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Chrysene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[b+j]fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	mg/kg	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-c,d)pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total PAHs	mg/kg	0.5	200	800	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PCB	Arochlor 1221	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Aroclor 1016	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1232	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1242	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1248	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1254	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1260	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	PCBs (Sum of total)	mg/kg	0.5	50	50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPH	C10 - C14	mg/kg	20			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C15 - C28	mg/kg	50			65	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C29 - C36	mg/kg	50			61	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C10 - C36 (Sum of total)	mg/kg	50	10000	40000	126	<50	<50	<50	<50	<50	<50	<50	<50	<50
Volatile	Benzene	mg/kg	0.1	10	40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	600	2400	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1	288	1152	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylene (m & p)	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Xylene (o)	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylene Total	mg/kg	0.3	1000	4000	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3

Result	CT1 NSW 2014 General Solid Waste (No Leaching)
Result	CT2 NSW 2014 Restricted Solid Waste (No Leaching)

						Field_ID	CBH06_0.0-0.2	CBH06_1.0-1.1	CBH07_0.5-0.6	CBH07_1.0-1.1	CBH08_0.0-0.2	CBH08_1.0-1.1	CBH09_0.0-0.2	CBH09_0.5-0.6	CBH10_0.5-0.6	CBH10_1.0-1.1
						Sampled_Date-Time	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20
Method_Type	**ChemName**	**Units**	**EQL**	CT1 NSW 2014 General Solid Waste (No Leaching)	CT2 NSW 2014 Restricted Solid Waste (No Leaching)											
Heavy Metal	Arsenic	mg/kg	2	100	400		5.8	4.2	5.4	3	2.9	4.5	12	9.6	11	11
	Cadmium	mg/kg	0.4	20	80		0.7	<0.4	<0.4	<0.4	0.8	<0.4	0.7	<0.4	<0.4	<0.4
	Chromium	mg/kg	5	100	400		15	7.8	13	7.9	9	20	28	23	24	13
	Copper	mg/kg	5				39	<5	5	<5	37	<5	83	<5	9.5	<5
	Lead	mg/kg	5	100	400		18	9.2	30	23	18	13	28	16	18	20
	Mercury	mg/kg	0.1	4	16		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	mg/kg	5	40	160		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
	Zinc	mg/kg	5				40	<5	<5	<5	27	<5	28	<5	7.4	<5
Inorganic	Moisture Content (dried @ 103°C)	%	1				27	15	13	12	28	13	17	20	21	15
OCP	4,4-DDE	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	0.26	<0.05	0.65	<0.05	0.05	<0.05
	a-BHC	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Aldrin	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Aldrin + Dieldrin	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	b-BHC	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Chlordane	mg/kg	0.1				<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	d-BHC	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDD	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	DDT	mg/kg	0.05				0.12	<0.05	<0.05	<0.05	0.21	<0.05	0.45	<0.05	<0.05	<0.05
	DDT+DDE+DDD	mg/kg	0.05				0.12	<0.05	<0.05	<0.05	0.47	<0.05	1.1	<0.05	0.05	<0.05
	Dieldrin	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan I	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan II	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endosulfan sulphate	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin aldehyde	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Endrin ketone	mg/kg	0.05				<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	g-BHC (Lindane)	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Hexachlorobenzene	mg/kg	0.05				<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	Methoxychlor	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Toxaphene	mg/kg	1				<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
	Vic EPA IWRG 621 OCP (Total)*	MG/KG	0.1				<0.2	<0.2	<0.2	<0.2	0.47	<0.2	1.1	<0.2	<0.2	<0.2
	Vic EPA IWRG 621 Other OCP (Total)*	MG/KG	0.1				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
OPP	Azinophos methyl	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Bolstar (Sulprofos)	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorfenvinphos	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos	mg/kg	0.2	4	16		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Chlorpyrifos-methyl	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Coumaphos	mg/kg	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Demeton-O	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Demeton-S	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Diazinon	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Dichlorvos	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Dimethoate	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Disulfoton	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	EPN	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ethoprop	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fenitrothion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fensulfothion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Fenthion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Malathion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Merphos	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Methyl parathion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Mevinphos (Phosdrin)	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Monocrotophos	mg/kg	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Naled (Dibrom)	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Omethoate	mg/kg	2				<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
	Parathion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Phorate	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Pirimiphos-methyl	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Pyrazophos	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Ronnel	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Terbufos	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Trichloronate	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Tetrachlorvinphos	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Tokuthion	mg/kg	0.2				<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Organic	Naphthalene	mg/kg	0.5				<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	F2-NAPHTHALENE	mg/kg	50				<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C6 - C9	mg/kg	20	650	2600		<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
	C10 - C40 (Sum of total)	mg/kg	100				<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C6-C10 less BTEX (F1)	mg/kg	20				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20

Table LR2
Waste Classification Results
DSI - New Hope School
754-NTLEN272143

					Field_ID	CBH06_0.0-0.2	CBH06_1.0-1.1	CBH07_0.5-0.6	CBH07_1.0-1.1	CBH08_0.0-0.2	CBH08_1.0-1.1	CBH09_0.0-0.2	CBH09_0.5-0.6	CBH10_0.5-0.6	CBH10_1.0-1.1
					Sampled_Date-Time	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20	18-Mar-20
Method_Type	ChemName	Units	EQL	CT1 NSW 2014 General Solid Waste (No Leaching)	CT2 NSW 2014 Restricted Solid Waste (No Leaching)										
	C10-C16	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C16-C34	mg/kg	100			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C34-C40	mg/kg	100			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
	C6 - C10	mg/kg	20			<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
PAH	Acenaphthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	0.8	3.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (lower bound) *	MG/KG	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(a)pyrene TEQ (medium bound) *	MG/KG	0.5			0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Benzo(a)pyrene TEQ (upper bound) *	MG/KG	0.5			1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Benzo(g,h,i)perylene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo(k)fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Chrysene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Benzo[b+j]fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluoranthene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Fluorene	mg/kg	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-c,d)pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Naphthalene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Phenanthrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Pyrene	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Total PAHs	mg/kg	0.5	200	800	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
PCB	Arochlor 1221	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Aroclor 1016	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1232	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1242	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1248	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1254	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	Aroclor 1260	mg/kg	0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	PCBs (Sum of total)	mg/kg	0.5	50	50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TPH	C10 - C14	mg/kg	20			<20	<20	<20	<20	<20	<20	<20	<20	<20	23
	C15 - C28	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C29 - C36	mg/kg	50			<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	C10 - C36 (Sum of total)	mg/kg	50	10000	40000	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Volatile	Benzene	mg/kg	0.1	10	40	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Ethylbenzene	mg/kg	0.1	600	2400	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Toluene	mg/kg	0.1	288	1152	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylene (m & p)	mg/kg	0.2			<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
	Xylene (o)	mg/kg	0.1			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Xylene Total	mg/kg	0.3	1000	4000	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3

Result	CT1 NSW 2014 General Solid Waste (No Leaching)
Result	CT2 NSW 2014 Restricted Solid Waste (No Leaching)

Table LR3
Groundwater Analytical Results
DSI - New Hope School
754-NTLEN272143

								Field_ID	MW01	MW02	MW03
								LocCode	MW01	MW02	MW03
								Sample Date	30-Mar-20	30-Mar-20	30-Mar-20
Method_Type	**ChemName**	**Units**	**EQL**	ANZG (2018) Freshwater 95% toxicant DGVs	NEPM 2013 GILs, Fresh Waters	HSL-intrusive maintenance worker, 0 to <2m, Clay Soils for Vapour Intrusion	HSL-A/B, for vapour intrusion 2 to <4m, GW in Clay Soils	NEPM 2013 Residential GW HSL A/B Vapour Intrusion, 2m to <4m, Clay			
Heavy Metal	Arsenic	mg/L	0.001						0.044	0.047	0.006
	Cadmium	mg/L	0.0002	0.0002	0.0002				0.0012	0.0003	<0.0002
	Chromium (III+VI)	mg/L	0.001						0.083	0.31	0.021
	Copper	mg/L	0.001	0.0014	0.0014				0.14	0.26	0.009
	Lead	mg/L	0.001	0.0034	0.0034				0.16	0.25	0.018
	Mercury	mg/L	0.0001	0.0006	0.00006				0.0003	0.0014	<0.0001
	Nickel	mg/L	0.001	0.011	0.011				0.099	0.044	0.008
	Zinc	mg/L	0.005	0.008	0.008				0.56	0.4	0.042
OCP	4,4-DDE	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	a-BHC	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Aldrin	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Aldrin + Dieldrin	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	b-BHC	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	chlordane	mg/L	0.001	0.08	0.03				< 0.0001	< 0.0001	< 0.0001
	d-BHC	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	DDD	mg/L	0.001						< 0.001	< 0.001	< 0.001
	DDT	mg/L	0.001	0.01	0.006				< 0.0001	< 0.0001	< 0.0001
	DDT+DDE+DDD	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Dieldrin	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Endosulfan I	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Endosulfan II	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Endosulfan sulphate	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Endrin	mg/L	0.001	0.02	0.01				< 0.0001	< 0.0001	< 0.0001
	Endrin aldehyde	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Endrin ketone	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	g-BHC (Lindane)	mg/L	0.001	0.2	0.2				< 0.0001	< 0.0001	< 0.0001
	Heptachlor	mg/L	0.001	0.09	0.01				< 0.0001	< 0.0001	< 0.0001
	Heptachlor epoxide	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Hexachlorobenzene	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Methoxychlor	mg/L	0.001						< 0.0001	< 0.0001	< 0.0001
	Toxaphene	mg/L	0.01	0.0002	0.0001				< 0.01	< 0.01	< 0.01
OPP	Tokuthion	mg/L	0.002						<0.002	<0.002	<0.002
	Azinophos methyl	mg/L	0.002	0.02	0.02				< 0.002	< 0.002	< 0.002
	Bolstar (Sulprofos)	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Chlorfenvinphos	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Chlorpyrifos	mg/L	0.02	0.01	0.01				< 0.002	< 0.002	< 0.002
	Chlorpyrifos-methyl	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Coumaphos	mg/L	0.02						< 0.02	< 0.02	< 0.02
	Demeton-O	mg/L	0.02						< 0.002	< 0.002	< 0.002
	Demeton-S	mg/L	0.02						< 0.02	< 0.02	< 0.02
	Diazinon	mg/L	0.002	0.01	0.01				< 0.002	< 0.002	< 0.002
	Dichlorvos	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Dimethoate	mg/L	0.002	0.15	0.15				< 0.002	< 0.002	< 0.002
	Disulfoton	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Ethion	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Ethoprop	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Fenitrothion	mg/L	0.002	0.2	0.2				< 0.002	< 0.002	< 0.002
	Fensulfothion	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Fenthion	mg/L	0.002						< 0.002	< 0.002	< 0.002
	EPN	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Malathion	mg/L	0.002	0.05	0.05				< 0.002	< 0.002	< 0.002
	Merphos	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Methyl parathion	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Mevinphos (Phosdrin)	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Monocrotophos	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Naled (Dibrom)	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Omethoate	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Parathion	mg/L	0.002	0.004	0.004				< 0.002	< 0.002	< 0.002
	Phorate	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Pirimiphos-methyl	mg/L	0.02						< 0.02	< 0.02	< 0.02
	Pyrazophos	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Ronnel	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Terbufos	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Trichloronate	mg/L	0.002						< 0.002	< 0.002	< 0.002
	Tetrachlorvinphos	mg/L	0.002						< 0.002	< 0.002	< 0.002

Table LR3
Groundwater Analytical Results
DSI - New Hope School
754-NTLEN272143

								Field_ID	MW01	MW02	MW03
								LocCode	MW01	MW02	MW03
								Sample Date	30-Mar-20	30-Mar-20	30-Mar-20
Method_Type	**ChemName**	**Units**	**EQL**	ANZG (2018) Freshwater 95% toxicant DGVs	NEPM 2013 GILs, Fresh Waters	HSL-intrusive maintenance worker, 0 to <2m, Clay Soils for Vapour Intrusion	HSL-A/B, for vapour intrusion 2 to <4m, GW in Clay Soils	NEPM 2013 Residential GW HSL A/B Vapour Intrusion, 2m to <4m, Clay			
Organic	C10-C16	mg/L	0.05						<0.05	<0.05	<0.05
	C16-C34	mg/L	0.1						<0.1	0.3	<0.1
	C34-C40	mg/L	0.1						<0.1	0.2	<0.1
	F2-NAPHTHALENE	mg/L	0.05						<0.05	<0.05	<0.05
	Naphthalene	mg/L	0.01	16	16				<0.1	<0.1	<0.1
	C6 - C9	mg/L	0.02						<0.02	<0.02	<0.02
	C10 - C40 (Sum of total)	mg/L	0.1						<0.1	0.5	<0.1
	C6-C10 less BTEX (F1)	mg/L	0.02						<0.02	<0.02	<0.02
	C6-C10	mg/L	0.02						<0.02	<0.02	<0.02
PAH	Benzo(b+j)fluoranthene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Acenaphthene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Acenaphthylene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Anthracene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Benz(a)anthracene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Benzo(a) pyrene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Benzo(g,h,i)perylene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Benzo(k)fluoranthene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Chrysene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Dibenz(a,h)anthracene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Fluoranthene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Fluorene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Indeno(1,2,3-c,d)pyrene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Naphthalene	mg/L	0.001	16	16				< 0.001	< 0.001	< 0.001
	PAHs (Sum of total)	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Phenanthrene	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Pyrene	mg/L	0.001						< 0.001	< 0.001	< 0.001
PCB	Arochlor 1016	mg/L	0.005						< 0.005	< 0.005	< 0.005
	Arochlor 1221	mg/L	0.001						< 0.001	< 0.001	< 0.001
	Arochlor 1232	mg/L	0.005						< 0.005	< 0.005	< 0.005
	Arochlor 1242	mg/L	0.005	0.6	0.3				< 0.005	< 0.005	< 0.005
	Arochlor 1248	mg/L	0.005						< 0.005	< 0.005	< 0.005
	Arochlor 1254	mg/L	0.005	0.03	0.01				< 0.005	< 0.005	< 0.005
	Arochlor 1260	mg/L	0.005						< 0.005	< 0.005	< 0.005
	PCBs (Sum of total)	mg/L	0.005						< 0.001	< 0.001	< 0.001
TPH	C10 - C14	mg/L	0.05						<0.05	<0.05	<0.05
	C15 - C28	mg/L	0.1						<0.1	0.1	<0.1
	C29-C36	mg/L	0.1						<0.1	0.2	<0.1
	+C10 - C36 (Sum of total)	mg/L	0.1						<0.1	0.2	<0.1
Volatile	Benzene	mg/L	0.001	950	950	350	4600	5000	<0.001	<0.001	<0.001
	Ethylbenzene	mg/L	0.001						<0.001	<0.001	<0.001
	Toluene	mg/L	0.001						<0.001	<0.001	<0.001
	Xylene (m & p)	mg/L	0.002						<0.002	<0.002	<0.002
	Xylene (o)	mg/L	0.001	350	350				<0.001	<0.001	<0.001
	Xylene Total	mg/L	0.003						<0.003	<0.003	<0.003

Result	Exceeds ANZG (2018) Freshwater 95% toxicant DGVs
Result	Exceeds NEPM 2013 GILs, Fresh Waters Criteria
Result	Exceeds HSL-intrusive maintenance worker, 0 to <2m, Clay Soils for Vapour Intrusion
Result	Exceeds HSL-A/B, for vapour intrusion 2 to <4m, Clay in soils
Result	Exceeds NEPM 2013 Residential GW HSL A/B Vapour Intrusion, 2m to <4m, Clay

Table LR4
QAQC Soil Results
DSI - New Hope School
754-NTLEN272143

NBRS Architecture
9-15 Quarry Rd, Dural NSW

Field Duplicates (SOIL)
Filter: SDG in('19 Mar 2020')

SDG				19-Mar-20	27-Mar-20		19-Mar-20	Interlab_D		19-Mar-20	27-Mar-20		19-Mar-20	Interlab_D	
Field ID				CBH10_0.5-0.6	QC1	**RPD**	CBH10_0.5-0.6	QC2	**RPD**	CBH02_0.0-0.2	QC3	**RPD**	CBH02_0.0-0.2	QC4	**RPD**
Sampled Date/Time				18-03-20	18-03-20		18-03-20	18-03-20		18-03-20	18-03-20		18-03-20	18-03-20	
Method_Type	**ChemName**	**Units**	**EQL**												
Volatile	Benzene	mg/kg	0.1 (Primary): 0.2 (Interlab)	<0.1	<0.1	0	<0.1	<0.2	0	<0.1	<0.1	0	<0.1	<0.2	0
	Ethylbenzene	mg/kg	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
	Toluene	mg/kg	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
	Xylene (m & p)	mg/kg	0.2 (Primary): 0.5 (Interlab)	<0.2	<0.2	0	<0.2	<0.5	0	<0.2	<0.2	0	<0.2	<0.5	0
	Xylene (o)	mg/kg	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0	<0.1	<0.1	0	<0.1	<0.5	0
	Xylene Total	mg/kg	0.3 (Primary): 0.5 (Interlab)	<0.3	<0.3	0	<0.3	<0.5	0	<0.3	<0.3	0	<0.3	<0.5	0
Organic	C6-C10 less BTEX (F1)	mg/kg	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<10.0	0	<20.0	<20.0	0	<20.0	<10.0	0
Inorganic	Moisture Content (dried @ 103°C)	%	1	21.0	21.0	0	21.0	-	-	19.0	19.0	0	19.0	-	-
Heavy Metal	Arsenic	mg/kg	2 (Primary): 5 (Interlab)	11.0	12.0	9	11.0	11.0	0	9.9	8.3	18	9.9	8.0	21
	Cadmium	mg/kg	0.4 (Primary): 1 (Interlab)	<0.4	<0.4	0	<0.4	<1.0	0	0.5	0.6	18	0.5	<1.0	0
	Chromium	mg/kg	5 (Primary): 2 (Interlab)	24.0	29.0	19	24.0	23.0	4	22.0	19.0	15	22.0	15.0	38
	Copper	mg/kg	5	9.5	8.2	15	9.5	6.0	45	41.0	35.0	16	41.0	34.0	19
	Lead	mg/kg	5	18.0	22.0	20	18.0	17.0	6	20.0	22.0	10	20.0	17.0	16
	Mercury	mg/kg	0.1	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0	<0.1	<0.1	0
	Nickel	mg/kg	5 (Primary): 2 (Interlab)	<5.0	<5.0	0	<5.0	<2.0	0	<5.0	<5.0	0	<5.0	<2.0	0
	Zinc	mg/kg	5	7.4	7.3	1	7.4	6.0	21	25.0	23.0	8	**25.0**	**14.0**	**56**
OCP	4,4-DDE	mg/kg	0.05	0.05	<0.05	0	0.05	<0.05	0	0.15	<0.2	0	0.15	0.23	42
	a-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Aldrin + Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	b-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Chlordane	mg/kg	0.1 (Primary): 0.05 (Interlab)	<0.1	<0.1	0	<0.1	<0.05	0	<0.1	<0.1	0	<0.1	<0.05	0
	d-BHC	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	DDD	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.1	0	<0.05	<0.05	0
	DDT	mg/kg	0.05 (Primary): 0.2 (Interlab)	<0.05	<0.05	0	<0.05	<0.2	0	**0.21**	**<0.05**	**123**	0.21	0.3	35
	DDT+DDE+DDD	mg/kg	0.05	0.05	<0.05	0	0.05	<0.05	0	**0.36**	**<0.2**	**57**	**0.36**	**0.53**	**38**
	Dieldrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan I	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan II	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endosulfan sulphate	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Endrin ketone	mg/kg	0.05	<0.1	<0.05	0	<0.1	<0.05	0	<0.1	<0.05	0	<0.1	<0.05	0
	g-BHC (Lindane)	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Hexachlorobenzene	mg/kg	0.05	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0	<0.05	<0.05	0
	Methoxychlor	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Toxaphene	mg/kg	1	<1.0	<1.0	0	<1.0	-	-	<1.0	<1.0	0	<1.0	-	-
OPP	Azinophos methyl	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Bolstar (Sulprofos)	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Chlorfenvinphos	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Chlorpyrifos	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Chlorpyrifos-methyl	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Coumaphos	mg/kg	2	<2.0	<2.0	0	<2.0	-	-	<2.0	<2.0	0	<2.0	-	-
	Demeton-O	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Demeton-S	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Diazinon	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Dichlorvos	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Dimethoate	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Disulfoton	mg/kg	0.2	<0.2	<0.2	0	<0.2			<0.2	<0.2	0	<0.2	-	-
	Ethion	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Ethoprop	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Fenitrothion	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Fensulfothion	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Fenthion	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Malathion	mg/kg	0.2 (Primary): 0.05 (Interlab)	<0.2	<0.2	0	<0.2	<0.05	0	<0.2	<0.2	0	<0.2	<0.05	0
	Merphos	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Methyl parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Mevinphos (Phosdrin)	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Monocrotophos	mg/kg	2 (Primary): 0.2 (Interlab)	<2.0	<2.0	0	<2.0	<0.2	0	<2.0	<2.0	0	<2.0	<0.2	0
	Naled (Dibrom)	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Omethoate	mg/kg	2	<2.0	<2.0	0	<2.0	-	-	<2.0	<2.0	0	<2.0	-	-
	Parathion	mg/kg	0.2	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0	<0.2	<0.2	0
	Phorate	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Pyrazophos	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Ronnel	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Terbufos	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Trichloronate	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Tetrachlorvinphos	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
	Tokuthion	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-

Table LR4
QAQC Soil Results
DSI - New Hope School
754-NTLEN272143

Field Duplicates (SOIL)
Filter: SDG in('19 Mar 2020')

SDG	19-Mar-20	27-Mar-20		19-Mar-20	Interlab_D		19-Mar-20	27-Mar-20		19-Mar-20	Interlab_D	
Field ID	CBH10_0.5-0.6	QC1	**RPD**	CBH10_0.5-0.6	QC2	**RPD**	CBH02_0.0-0.2	QC3	**RPD**	CBH02_0.0-0.2	QC4	**RPD**
Sampled Date/Time	18-03-20	18-03-20		18-03-20	18-03-20		18-03-20	18-03-20		18-03-20	18-03-20	
Method_Type	**ChemName**	**Units**	**EQL**											
Organic	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
PAH	Acenaphthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ (lower bound) *	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(a)pyrene TEQ (medium bound) *	mg/kg	0.5	0.6	0.6	0	0.6	0.6	0	0.6	0.6	0	0.6	0.6	0
	Benzo(a)pyrene TEQ (upper bound) *	mg/kg	0.5	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0	1.2	1.2	0
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo(k)fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Chrysene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Benzo[b+j]fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Fluoranthene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Fluorene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Naphthalene	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Phenanthrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Pyrene	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
	Total PAHs	mg/kg	0.5	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0	<0.5	<0.5	0
OPP	Pirimiphos-methyl	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
PCB	Arochlor 1221	mg/kg	0.1	<0.1	<0.1	0	<0.1	-	-	<0.1	<0.1	0	<0.1	-	-
	Aroclor 1016	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	-	-
	Aroclor 1232	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	-	-
	Aroclor 1242	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	-	-
	Aroclor 1248	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	-	-
	Aroclor 1254	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	-	-
	Aroclor 1260	mg/kg	0.5	<0.5	<0.5	0	<0.5	-	-	<0.5	<0.5	0	<0.5	-	-
	PCBs (Sum of total)	mg/kg	0.5 (Primary): 0.1 (Interlab)	<0.5	<0.5	0	<0.5	<0.1	0	<0.5	<0.5	0	<0.5	<0.1	0
OPP	EPN	mg/kg	0.2	<0.2	<0.2	0	<0.2	-	-	<0.2	<0.2	0	<0.2	-	-
Organic	F2-NAPHTHALENE	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C6 - C9	mg/kg	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<10.0	0	<20.0	<20.0	0	<20.0	<10.0	0
	C10 - C40 (Sum of total)	mg/kg	100 (Primary): 50 (Interlab)	<100.0	<100.0	0	<100.0	<50.0	0	<100.0	<100.0	0	<100.0	<50.0	0
	C10-C16	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0
	C16-C34	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C34-C40	mg/kg	100	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0	<100.0	<100.0	0
	C6 - C10	mg/kg	20 (Primary): 10 (Interlab)	<20.0	<20.0	0	<20.0	<10.0	0	<20.0	<20.0	0	<20.0	<10.0	0
TPH	C10 - C14	mg/kg	20 (Primary): 50 (Interlab)	<20.0	<20.0	0	<20.0	<50.0	0	<20.0	<20.0	0	<20.0	<50.0	0
	C15 - C28	mg/kg	50 (Primary): 100 (Interlab)	<50.0	<50.0	0	<50.0	<100.0	0	<50.0	<50.0	0	<50.0	<100.0	0
	C29 - C36	mg/kg	50 (Primary): 100 (Interlab)	<50.0	<50.0	0	<50.0	<100.0	0	<50.0	<50.0	0	<50.0	<100.0	0
	C10 - C36 (Sum of total)	mg/kg	50	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0	<50.0	<50.0	0

*RPDs have only been considered where a concentration is greater than 0 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (0-10 x EQL); 30 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Field Duplicates (WATER)
Filter: SDG in('31 Mar 2020')

			SDG	31-Mar-20	31-Mar-20		31-Mar-20	Interlab_D	
			Field ID	MW01	QC1	RPD	MW01	QC2	RPD
			Sampled Date/Time	30-03-20	30-03-20		30-03-20	30-03-20	
Method_Type	**ChemName**	**Units**	**EQL**						
OPP	Tokuthion	mg/l	0.002	<0.002	<0.002	0	<0.002		
Organic	C6-C10 less BTEX (F1)	mg/l	0.02	<0.02	<0.02	0	<0.02	<0.02	0
Volatile	Benzene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Ethylbenzene	µg/l	1 (Primary): 2 (Interlab)	<1.0	<1.0	0	<1.0	<2.0	0
	Toluene	µg/l	1 (Primary): 2 (Interlab)	<1.0	<1.0	0	<1.0	<2.0	0
	Xylene (m & p)	µg/l	2	<2.0	<2.0	0	<2.0	<2.0	0
	Xylene (o)	µg/l	1 (Primary): 2 (Interlab)	<1.0	<1.0	0	<1.0	<2.0	0
	Xylene Total	µg/l	3 (Primary): 2 (Interlab)	<3.0	<3.0	0	<3.0	<2.0	0
OCP	Hexachlorobenzene	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
Heavy Metal	Lead	mg/l	0.001	**0.16**	**0.24**	**40**	**0.16**	**0.305**	**62**
	Arsenic	mg/l	0.001	**0.044**	**0.065**	**39**	0.044	0.04	10
	Cadmium	mg/l	0.0002 (Primary): 0.0001 (Interlab)	0.0012	0.0015	22	0.0012	0.0012	0
	Chromium (III+VI)	mg/l	0.001	**0.083**	**0.14**	**51**	**0.083**	**0.163**	**65**
	Copper	mg/l	0.001	0.14	0.17	19	0.14	0.174	22
	Mercury	mg/l	0.0001	**0.0003**	**0.0006**	**67**	0.0003	0.0003	0
	Nickel	mg/l	0.001	0.099	0.13	27	0.099	0.132	29
	Zinc	mg/l	0.005	**0.56**	**0.79**	**34**	**0.56**	**0.842**	**40**
OCP	4,4-DDE	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	a-BHC	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Aldrin	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Aldrin + Dieldrin	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	b-BHC	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	chlordane	µg/l	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<0.5	0
	d-BHC	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	DDD	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	DDT	µg/l	0.1 (Primary): 2 (Interlab)	<0.1	<0.1	0	<0.1	<2.0	0
	DDT+DDE+DDD	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Dieldrin	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Endosulfan I	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Endosulfan II	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Endosulfan sulphate	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Endrin	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Endrin aldehyde	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Endrin ketone	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	g-BHC (Lindane)	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Heptachlor	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Heptachlor epoxide	µg/l	0.1 (Primary): 0.5 (Interlab)	<0.1	<0.1	0	<0.1	<0.5	0
	Methoxychlor	µg/l	0.1 (Primary): 2 (Interlab)	<0.1	<0.1	0	<0.1	<2.0	0
	Toxaphene	mg/l	0.01	<0.01	<0.01	0	<0.01	-	-
OPP	Azinophos methyl	µg/l	2 (Primary): 0.5 (Interlab)	<2.0	<2.0	0	<2.0	<0.5	0
	Bolstar (Sulprofos)	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Chlorfenvinphos	µg/l	2 (Primary): 0.5 (Interlab)	<2.0	<2.0	0	<2.0	<0.5	0
	Chlorpyrifos	µg/l	20 (Primary): 0.5 (Interlab)	<20.0	<20.0	0	<20.0	<0.5	0
	Chlorpyrifos-methyl	mg/l	0.002 (Primary): 0.0005 (Interlab)	<0.002	<0.002	0	<0.002	<0.0005	0
	Coumaphos	µg/l	20	<20.0	<20.0	0	<20.0	-	-
	Demeton-O	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Demeton-S	µg/l	20	<20.0	<20.0	0	<20.0	-	-
	Diazinon	µg/l	2 (Primary): 0.5 (Interlab)	<2.0	<2.0	0	<2.0	<0.5	0
	Dichlorvos	µg/l	2 (Primary): 0.5 (Interlab)	<2.0	<2.0	0	<2.0	<0.5	0
	Dimethoate	µg/l	2 (Primary): 0.5 (Interlab)	<2.0	<2.0	0	<2.0	<0.5	0
	Disulfoton	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Ethion	µg/l	2 (Primary): 0.5 (Interlab)	<2.0	<2.0	0	<2.0	<0.5	0
	Ethoprop	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Fenitrothion	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Fensulfothion	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Fenthion	µg/l	2 (Primary): 0.5 (Interlab)	<2.0	<2.0	0	<2.0	<0.5	0
	Malathion	µg/l	2 (Primary): 0.5 (Interlab)	<2.0	<2.0	0	<2.0	<0.5	0
	Merphos	mg/l	0.002	<0.002	<0.002	0	<0.002	-	-
	Methyl parathion	µg/l	2	<2.0	<2.0	0	<2.0	<2.0	0
	Mevinphos (Phosdrin)	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Monocrotophos	µg/l	2	<2.0	<2.0	0	<2.0	<2.0	0
	Naled (Dibrom)	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Omethoate	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Phorate	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Pyrazophos	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Ronnel	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Terbufos	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Trichloronate	µg/l	2	<2.0	<2.0	0	<2.0	-	-
	Tetrachlorvinphos	mg/l	0.002	<0.002	<0.002	0	<0.002	-	-

Field Duplicates (WATER)
Filter: SDG in('31 Mar 2020')

			SDG	31-Mar-20	31-Mar-20		31-Mar-20	Interlab_D	
			Field ID	MW01	QC1	RPD	MW01	QC2	RPD
			Sampled Date/Time	30-03-20	30-03-20		30-03-20	30-03-20	
Method_Type	**ChemName**	**Units**	**EQL**						
PAH	Benzo(b+j)fluoranthene	mg/l	0.001	<0.001	<0.001	0	<0.001	<0.001	0
Organic	Naphthalene	µg/l	10 (Primary): 5 (Interlab)	<10.0	<10.0	0	<10.0	<1.0	0
PAH	Acenaphthene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Acenaphthylene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Anthracene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Benz(a)anthracene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Benzo(a) pyrene	µg/l	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<0.5	0
	Benzo(g,h,i)perylene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Benzo(k)fluoranthene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Chrysene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Dibenz(a,h)anthracene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Fluoranthene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Fluorene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Indeno(1,2,3-c,d)pyrene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Naphthalene	µg/l	1 (Primary): 5 (Interlab)	<1.0	<1.0	0	<1.0	<1.0	0
	PAHs (Sum of total)	µg/l	1 (Primary): 0.5 (Interlab)	<1.0	<1.0	0	<1.0	<0.5	0
	Phenanthrene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
	Pyrene	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
OPP	Parathion	µg/l	2	<2.0	<2.0	0	<2.0	<2.0	0
	Pirimiphos-methyl	mg/l	0.02	<0.02	<0.02	0	<0.02	-	-
PCB	Arochlor 1016	µg/l	5	<5.0	<5.0	0	<5.0	-	-
	Arochlor 1221	µg/l	1	<1.0	<1.0	0	<1.0	-	-
	Arochlor 1232	µg/l	5	<5.0	<5.0	0	<5.0	-	-
	Arochlor 1242	µg/l	5	<5.0	<5.0	0	<5.0	-	-
	Arochlor 1248	µg/l	5	<5.0	<5.0	0	<5.0	-	-
	Arochlor 1254	µg/l	5	<5.0	<5.0	0	<5.0	-	-
	Arochlor 1260	µg/l	5	<5.0	<5.0	0	<5.0	-	-
	PCBs (Sum of total)	µg/l	1	<1.0	<1.0	0	<1.0	<1.0	0
OPP	EPN	µg/l	2	<2.0	<2.0	0	<2.0	-	-
Organic	C10-C16	mg/l	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.05	0	<0.05	<0.1	0
	C16-C34	mg/l	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	C34-C40	mg/l	0.1	<0.1	<0.1	0	<0.1	<0.1	0
	F2-NAPHTHALENE	mg/l	0.05 (Primary): 0.1 (Interlab)	<0.05	<0.05	0	<0.05	<0.1	0
	C6 - C9	µg/l	20	<20.0	<20.0	0	<20.0	<20.0	0
	C10 - C40 (Sum of total)	µg/l	100	<100.0	<100.0	0	<100.0	<100.0	0
	C6-C10	mg/l	0.02	<0.02	<0.02	0	<0.02	<0.02	0
TPH	C10 - C14	µg/l	50	<50.0	<50.0	0	<50.0	<50.0	0
	C15 - C28	µg/l	100	<100.0	<100.0	0	<100.0	<100.0	0
	C29-C36	µg/l	100 (Primary): 50 (Interlab)	<100.0	<100.0	0	<100.0	<50.0	0
	+C10 - C36 (Sum of total)	µg/l	100 (Primary): 50 (Interlab)	<100.0	<100.0	0	<100.0	<50.0	0

*RPDs have only been considered where a concentration is greater than 0 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 50 (0-10 x EQL); 30 (10-20 x EQL); 30 (> 20 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Table LR6
QAQC - Field Blanks
DSI - New Hope School
754-NTLEN272143

NBRS Architecture
9-15 Quarry Rd, Dural

Field Blanks (SOIL)
Filter: SDG in('19 Mar 2020')

SDG	19-Mar-20	19-Mar-20
Field ID	TB	TS
Sampled_Date/Time		
Sample Type	Trip_B	Trip_Spike %

Method_Type	ChemName	Units	EQL		
	Naphthalene	mg/kg	0.5	<0.5	96
	C6 - C9	mg/kg	20	<20	100
	C6-C10 less BTEX (F1)	mg/kg	20	<20	-
	C6 - C10	mg/kg	20	<20	100
Volatile	Benzene	mg/kg	0.1	<0.1	100
	Ethylbenzene	mg/kg	0.1	<0.1	130
	Toluene	mg/kg	0.1	<0.1	100
	Xylene (m & p)	mg/kg	0.2	<0.2	100
	Xylene (o)	mg/kg	0.1	<0.1	98
	Xylene Total	mg/kg	0.3	<0.3	100

Field Blanks (WATER)
Filter: SDG in('31 Mar 2020')

SDG	31-Mar-20	31-Mar-20
Field ID	TB	TB
Sampled_Date/Time	30-03-20	30-03-20
Sample Type	Trip_B	Trip_Spike %

Method_Type	ChemName	Units	EQL		
	Naphthalene	µg/l	10	<10	110
	C6 - C9	µg/l	20	<20	72
	C6-C10 less BTEX (F1)	mg/l	0.02	<0.02	-
	C6-C10	mg/l	0.02	<0.02	73
Volatile	Benzene	µg/l	1	<1	100
	Ethylbenzene	µg/l	1	<1	100
	Toluene	µg/l	1	<1	100
	Xylene (o)	µg/l	1	<1	110
	Xylene Total	µg/l	3	<3	110

Appendix D - Borehole Logs

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Engineering Log - Borehole

Borehole No.	**CBH01**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Date started:	**18.3.2020**
Date completed:	**18.3.2020**
Logged by:	**SB**
Checked by:	

Client: **NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**

Principal:

Project: **DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**

Borehole Location: **9-15 Quarry Road, Dural NSW**

drill model and mounting: Geo-Probe Track | Easting: | slope: -90° | R.L. Surface:

hole diameter: 50 mm | Northing | bearing: | datum:

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetro-meter kPa 100 200 300 400	structure and additional observations
PT			0.3	E		0.5		ML	Vegetation - Fresh Grass	M			**FILL** - No soil staining or ACM observed
								CL-ML	**Silty SAND** fine to medium grained, brown/dark brown in colour, very fine to medium sub-angular gravels	M			
			0.1	E		1.0		SC	**Sandy CLAY** fine to medium grained, orange/yellow in colour, very fine to medium sub-angular gravels	M=Wp			**RESIDUAL** - No soil staining or ACM observed
			0.0	E		1.5			**SANDSTONE** fine to medium grained, pale grey/white in colour	D			**HAWKEBURY SANDSTONE - HIGHLY WEATHERED**
			0.0	E		2.0			**SANDSTONE** fine to medium grained, pale grey/white in colour				**HAWKEBURY SANDSTONE - EXTREMELY WEATHERED**
						2.5			- Target Depth reached Borehole CBH01 terminated at 2m				
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration

1 2 3 4 — no resistance ranging to refusal

water

- 10/1/98 water level on date shown
- water inflow
- water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

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Engineering Log - Borehole

Borehole No.	**CBH02**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Client:	**NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**
Date started:	**18.3.2020**
Principal:	
Date completed:	**18.3.2020**
Project:	**DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**
Logged by:	**SB**
Borehole Location:	**9-15 Quarry Road, Dural NSW**
Checked by:	

drill model and mounting: Geo-Probe Track | Easting: | slope: -90° | R.L. Surface:

hole diameter: 50 mm | Northing | bearing: | datum:

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
SS								ML	Vegetation - Fresh Grass	M			
			0.1	E				CL-ML	**Silty SAND** fine to medium grained, brown/dark brown in colour, very fine to medium sub-angular gravels	M			**FILL** - No soil staining or ACM observed
						0.5		CL	**Silty CLAY** fine to medium grained, pale orange/yellow in colour, very fine to fine sub-angular gravels	M=Wp			**RESIDUAL** - No soil staining or ACM observed
PT			0.0	E				SC	**Sandy CLAY** fine grained, pale orange/yellow in colour, fine sub-angular gravels	M=Wp			**HAWKEBURY SANDSTONE - EXTREMELY WEATHERED**
			0.0	E		1.0							
			0.0	E		1.5			**SANDSTONE** fine to medium grained, brown red/grey in colour	D			**HAWKEBURY SANDSTONE - EXTREMELY WEATHERED**
						2.0			refusal on sandstone rock Borehole CBH02 terminated at 1.7m				
						2.5							
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

BOREHOLE + PID GINT STD US LAB.GPJ COFFEY.GDT 4.28.20

Form GEO 5.3 Issue 3 Rev.2

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Engineering Log - Borehole

Borehole No.	**CBH03**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Client:	**NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**
Date started:	**18.3.2020**
Principal:	
Date completed:	**18.3.2020**
Project:	**DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**
Logged by:	**SB**
Borehole Location:	**9-15 Quarry Road, Dural NSW**
Checked by:	

drill model and mounting: Geo-Probe Track | Easting: | slope: -90° | R.L. Surface:
hole diameter: 50 mm | Northing | bearing: | datum:

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
SS			0.0	E				ML	Vegetation - Fresh Grass	M			
								CL-ML	**Silty SAND** fine to medium grained,dark brown in colour, very fine to medium sub-angular gravels, grass rootlets				**FILL** - No soil staining or ACM observed
						0.5		CL	**Silty CLAY** fine to medium grained, pale orange in colour, very fine to fine sub-angular gravels	M=Wp			**RESIDUAL** - No soil staining or ACM observed
PT			0.0	E									
						1.0		SC	**Sandy CLAY** fine grained, pale orange in colour, fine sub-angular gravels	M=Wp			**RESIDUAL** - No soil staining or ACM observed
			0.0	E									
						1.5			**SANDSTONE** fine to medium grained, brown red-brown/grey in colour	DM			**HAWKEBURY SANDSTONE - EXTREMELY WEATHERED**
			0.0	E		2.0							
									refusal on sandstone rock Borehole CBH03 terminated at 2m				
						2.5							
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration
1 2 3 4 — no resistance ranging to refusal

water
10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

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Engineering Log - Borehole

Borehole No.	**CHB04**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Date started:	**18.3.2020**
Date completed:	**18.3.2020**
Logged by:	**SB**
Checked by:	

Client: **NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**

Principal:

Project: **DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**

Borehole Location: **9-15 Quarry Road, Dural NSW**

drill model and mounting: Geo-Probe Track | Easting: | slope: -90° | R.L. Surface:

hole diameter: 50 mm | Northing | bearing: | datum:

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
SS			0.1	E				ML	Vegetation - Fresh Grass	M			**FILL** - No soil staining or ACM observed
								CL-ML	**Silty SAND** fine to medium grained,dark brown in colour, very fine to medium sub-angular gravels, grass rootlets				
								CL	**Silty CLAY** fine to medium grained, pale yellow in colour, very fine to fine sub-angular gravels	M<Wp			**RESIDUAL** - No soil staining or ACM observed
SS			0.1	E		0.5							
								SC	**Sandy CLAY** fine to medium grained, pale orange in colour, fine sub-angular gravels				**RESIDUAL** - No soil staining or ACM observed
			0.0	E		1.0			**SANDSTONE** fine to medium grained, pale brown/grey in colour	DM			**HAWKEBURY SANDSTONE - EXTREMELY WEATHERED**
						1.5							
			0.0	E		2.0							
						2.5			Target depth reached Borehole CHB04 terminated at 2m				
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

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Engineering Log - Borehole

Borehole No.	**CBH05**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Date started:	**18.3.2020**
Date completed:	**18.3.2020**
Logged by:	**SB**
Checked by:	

Client: **NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**

Principal:

Project: **DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**

Borehole Location: **9-15 Quarry Road, Dural NSW**

drill model and mounting: Geo-Probe Track | Easting: | slope: -90° | R.L. Surface:

hole diameter: 50 mm | Northing | bearing: | datum:

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa (100 200 300 400)	structure and additional observations
PT			0.1	E		0		ML	Vegetation - Fresh Grass				**FILL** - No soil staining or ACM observed
								CL-ML	**Silty SAND** fine to medium grained,dark brown in colour, very fine to medium sub-angular gravels, grass rootlets				**FILL** - No soil staining or ACM observed
								CL	**Silty CLAY** fine to medium grained, pale yellow in colour, very fine to fine sub-angular gravels				**RESIDUAL** - No soil staining or ACM observed
			0.2	E		0.5		SC	**Sandy CLAY** fine to medium grained, pale orange in colour, fine sub-angular gravels				**RESIDUAL** - No soil staining or ACM observed
			0.0	E		1.0			**SANDSTONE** fine to medium grained, pale brown/grey in colour				**HAWKEBURY SANDSTONE - HIGHLY WEATHERED**
			0.0	E		1.5							
						2.0			Target depth reached Borehole CBH05 terminated at 2m				
						2.5							
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

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Engineering Log - Borehole

Borehole No.	**CBH06**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Client:	**NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**
Date started:	**18.3.2020**
Principal:	
Date completed:	**18.3.2020**
Project:	**DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**
Logged by:	**SB**
Borehole Location:	**9-15 Quarry Road, Dural NSW**
Checked by:	

drill model and mounting:	Geo-Probe Track	Easting:	slope: -90°	R.L. Surface:	
hole diameter:	50 mm	Northing	bearing:	datum:	

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
PT			0.0	E				ML	Vegetation - Fresh Grass	M			**FILL** - No soil staining or ACM observed
								CL-ML	**Silty SAND** fine to medium grained,brown/dark brown in colour, very fine to medium sub-angular gravels, grass rootlets	M			**FILL** - No soil staining or ACM observed
								CL	**Silty CLAY** fine to medium grained, pale yellow/orange in colour, very fine to fine sub-angular gravels	M=Wp			**RESIDUAL** - No soil staining or ACM observed
			0.1	E		0.5							
								SC	**Sandy CLAY** fine to medium grained, pale orange in colour, fine sub-angular gravels	M<Wp			**HAWKEBURY SANDSTONE - HIGHLY WEATHERED**
			0.0	E		1.0			**SANDSTONE** fine to medium grained, pale brown/grey in colour	D			**HAWKEBURY SANDSTONE - EXTREMELY WEATHERED**
			0.0	E		1.5							
						2.0			refusal on sandstone at 1.6m Borehole CBH06 terminated at 1.6m				
						2.5							
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration

1 2 3 4 — no resistance ranging to refusal

water

- 10/1/98 water level on date shown
- water inflow
- water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

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Engineering Log - Borehole

Borehole No.	**CBH07**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Client:	**NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**
Date started:	**18.3.2020**
Principal:	
Date completed:	**18.3.2020**
Project:	**DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**
Logged by:	**SB**
Borehole Location:	**9-15 Quarry Road, Dural NSW**
Checked by:	

drill model and mounting:	Geo-Probe Track	Easting:	slope: -90°	R.L. Surface:	
hole diameter:	50 mm	Northing	bearing:	datum:	

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
PT			0.2	E		0.5		ML	Vegetation - Fresh Grass	M			**FILL** - No soil staining or ACM observed
								CL-ML	**Silty SAND** fine to medium grained, brown in colour, very fine to medium sub-angular gravels	M			**FILL** - No soil staining or ACM observed
			0.1	E				CL	**Silty CLAY** fine to medium grained, pale orange/yellow in colour, very fine to fine sub-angular gravels	M=Wp			**RESIDUAL** - No soil staining or ACM observed
						1.0		SC	**Sandy CLAY** fine to medium grained, pale brown/grey in colour, very fine to fine sub-angular gravels	M<Wp			**RESIDUAL** - No soil staining or ACM observed
			0.0	E					**SANDSTONE** fine to medium grained, pale brown /grey in colour	DM			**HAWKEBURY SANDSTONE - HIGHLY WEATHERED**
			0.0	E		1.5			refusal on sandstone rock Borehole CBH07 terminated at 1.7m				
						2.0							
						2.5							
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration

1 2 3 4 — no resistance ranging to refusal

water

- 10/1/98 water level on date shown
- water inflow
- water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

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Engineering Log - Borehole

Borehole No.	**CBH08**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Date started:	**18.3.2020**
Date completed:	**18.3.2020**
Logged by:	**SB**
Checked by:	

Client: **NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**

Principal:

Project: **DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**

Borehole Location: **9-15 Quarry Road, Dural NSW**

drill model and mounting: Geo-Probe Track | Easting: | slope: -90° | R.L. Surface:

hole diameter: 50 mm | Northing | bearing: | datum:

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
PT			0.1	E		0.5		ML	Vegetation - Fresh Grass	M			**FILL** - No soil staining or ACM observed
								CL-ML	**Silty SAND** fine to medium grained, brown in colour, very fine to medium sub-angular gravels, grass rootlets	M			**FILL** - No soil staining or ACM observed
			0.0	E		1.0		CL	**Silty CLAY** fine to medium grained,orange/brown in colour, very fine to fine sub-angular gravels	M=Wp			**RESIDUAL** - No soil staining or ACM observed
			0.0	E		1.5		CL-CH	**CLAY**red-brown in colour, high plasticity	Wp			**RESIDUAL** - No soil staining or ACM observed
									SANDSTONE fine to medium grained, red-brown in colour, fine to medium trace sands	DM			**HAWKEBURY SANDSTONE - HIGHLY WEATHERED**
			0.0	E		2.0			**SANDSTONE** fine to medium grained, pale brown/pale grey in colour	DM			**HAWKEBURY SANDSTONE - EXTREMELY WEATHERED**
						2.5			Target depth reached Borehole CBH08 terminated at 2m				
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration

1 2 3 4 — no resistance ranging to refusal

water

10/1/98 water level on date shown

water inflow

water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description

based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

BOREHOLE + PID GINT STD US LAB.GPJ COFFEY.GDT 4.28.20

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Engineering Log - Borehole

Borehole No.	**CBH09**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Client:	**NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**
Date started:	**18.3.2020**
Principal:	
Date completed:	**18.3.2020**
Project:	**DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**
Logged by:	**SB**
Borehole Location:	**9-15 Quarry Road, Dural NSW**
Checked by:	

drill model and mounting:	Geo-Probe Track	Easting:	slope: -90°	R.L. Surface:	
hole diameter:	50 mm	Northing	bearing:	datum:	

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
PT			0.2	E		0.0		ML CL	Vegetation - Fresh Grass **Silty SAND** fine to medium grained, brown in colour, very fine to medium sub-angular gravels, grass rootlets	M			**FILL** - No soil staining or ACM observed
						0.5		CL	**Sandy CLAY** fine to medium grained,orange in colour, very fine to fine sub-angular gravels	M=Wp			**RESIDUAL** - No soil staining or ACM observed
			0.0	E		1.0		CL - CH	**CLAY**red-brown in colour, medium plasticity	Wp			
			0.0	E		1.5			**SANDSTONE** fine to medium grained, pale brown/pale grey in colour	D			**RESIDUAL** - No soil staining or ACM observed **HAWKEBURY SANDSTONE - HIGHLY WEATHERED**
			0.0	E		2.0			Target depth reached Borehole CBH09 terminated at 2m				
						2.5							
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration

1 2 3 4 — no resistance ranging to refusal

water

- 10/1/98 water level on date shown
- water inflow
- water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

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Engineering Log - Borehole

Borehole No.	**CBH10**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Client:	**NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**
Date started:	**18.3.2020**
Principal:	
Date completed:	**18.3.2020**
Project:	**DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**
Logged by:	**SB**
Borehole Location:	**9-15 Quarry Road, Dural NSW**
Checked by:	

drill model and mounting:	Geo-Probe Track	Easting:	slope: -90°	R.L. Surface:	
hole diameter:	50 mm	Northing	bearing:	datum:	

drilling information | **material substance**

method	penetration 1 2 3	water	PID (ppm)	notes samples, tests, etc	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	pocket penetrometer kPa 100 200 300 400	structure and additional observations
PT			0.1	E		0.5		ML CL	Vegetation - Fresh Grass **Silty SAND** fine to medium grained,dark brown in colour, very fine to medium sub-angular gravels, grass rootlets	M			**FILL** - No soil staining or ACM observed
			0.1	E				CL	**Silty CLAY** fine to medium grained, pale orange in colour, very fine to fine sub-angular gravels	M=Wp			**RESIDUAL** - No soil staining or ACM observed
			0.0	E		1.0		CL-CH	**CLAY**red-brown in colour, medium plasticity	Wp			**RESIDUAL** - No soil staining or ACM observed
			0.0	E		1.5			**SANDSTONE** fine to medium grained, red-brown/pale grey in colour	DM			**HAWKEBURY SANDSTONE - HIGHLY WEATHERED**
						2.0			refusal on sandstone rock Borehole CBH10 terminated at 2m				
						2.5							
						3.0							

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

penetration

1 2 3 4 — no resistance ranging to refusal

water

- 10/1/98 water level on date shown
- water inflow
- water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
U_{63}	undisturbed sample 63mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
V	vane shear (kPa)
P	pressuremeter
Bs	bulk sample
E	environmental sample
R	refusal

classification symbols and soil description
based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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

Appendix E - Monitoring Well Construction Details

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Engineering Log - Monitoring Well

Borehole No. **MW01**
Sheet 1 of 1
Office Job No.: **754-NTLEN272143**

Client: **NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**
Date started: **18.3.2020**
Principal:
Date completed: **18.3.2020**
Project: **DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**
Logged by: **SB**
Borehole Location: **9-15 Quarry Road, Dural NSW**
Checked by:

drill model & mounting: Geo-Probe Track | Easting: | slope: -90° | R.L. Surface:
hole diameter: 50 mm | Northing: | bearing: | datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations
PT							0.0			Vegetation - Fresh Grass			
										Silty SAND fine to medium grained, dark brown in colour, very fine to medium sub-angular gravels, grass rootlets			
							0.5			**Silty CLAY** fine to medium grained, pale yellow in colour, very fine to fine sub-angular gravels			
										Sandy CLAY fine to medium grained, pale orange in colour, fine sub-angular gravels			
							1.0			**SANDSTONE** fine to medium grained, pale brown/grey in colour			
SS			▶				1.5						
							2.0						
							2.5						
							3.0						
							3.5						
										Borehole terminated at 3.66m			
							4.0						
							4.5						
							5.0						

method
DT diatube
PT push tube
SS soild stem flight auger
HS hollow stem flight auger
VT V Bit, T Bit
AH air hammer
CP cable percussive
HA hand auger
NDD non-destructive digging
RC rock corer

support
C casing N nil

penetration
1 2 3 4 — no resistance ranging to refusal

water
10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests
U_{50} undisturbed sample 50mm diameter
D disturbed sample
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
P pressure meter
Bs bulk sample
R refusal
E environmental sample
PID PID measurement
WS water sample
PZ piezometer
ALT air lift test

classification symbols and soil description
based on unified classification system

moisture
D dry
M moist
W wet
Wp plastic limit
W_L liquid limit

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

PIEZOMETER GINT STD US LAB.GPJ COFFEY.GDT 4.29.20
Form GEO 5.10 Issue 3 Rev.0

coffey
A TETRA TECH COMPANY

Engineering Log - Monitoring Well

Borehole No.	**MW02**
Sheet	1 of 1
Office Job No.:	**754-NTLEN272143**
Client:	**NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**
Date started:	**18.3.2020**
Principal:	
Date completed:	**18.3.2020**
Project:	**DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**
Logged by:	**SB**
Borehole Location:	**9-15 Quarry Road, Dural NSW**
Checked by:	

drill model & mounting: Geo-Probe Track | Easting: | slope: -90° | R.L. Surface:

hole diameter: 50 mm | Northing: | bearing: | datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations
SS			▶				0.0			Vegetation - Fresh Grass			
										Silty SAND fine to medium grained, dark brown in colour, very fine to medium sub-angular gravels, grass rootlets			
							0.5			**Silty CLAY** fine to medium grained, pale yellow in colour, very fine to fine sub-angular gravels			
										Sandy CLAY fine to medium grained, pale orange in colour, fine sub-angular gravels			
							1.0			**SANDSTONE** fine to medium grained, pale brown/grey in colour			
							1.5						
							2.0						
							2.5						
							3.0						
							3.5						
							4.0						
							4.5			Borehole terminated at 4.45m			
							5.0						

PIEZOMETER GINT STD US LAB.GPJ COFFEY.GDT 4.29.20

Form GEO 5.10 Issue 3 Rev.0

method

DT	diatube
PT	push tube
SS	soild stem flight auger
HS	hollow stem flight auger
VT	V Bit, T Bit
AH	air hammer
CP	cable percussive
HA	hand auger
NDD	non-destructive digging
RC	rock corer

support: C casing, N nil

penetration: 1 2 3 4 — no resistance ranging to refusal

water: 10/1/98 water level on date shown; water inflow; water outflow

notes, samples, tests

U_{50}	undisturbed sample 50mm diameter
D	disturbed sample
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
P	pressure meter
Bs	bulk sample
R	refusal
E	environmental sample
PID	PID measurement
WS	water sample
PZ	piezometer
ALT	air lift test

classification symbols and soil description: based on unified classification system

moisture

D	dry
M	moist
W	wet
Wp	plastic limit
W_L	liquid limit

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
A TETRA TECH COMPANY

Engineering Log - Monitoring Well

Borehole No. **MW03**
Sheet 1 of 1
Office Job No.: **754-NTLEN272143**

Client: **NBRS ARCHITECTURE/PACIFIC HILLS CHRISTIAN SCHOOL**
Date started: **18.3.2020**
Principal:
Date completed: **18.3.2020**
Project: **DETAILED SITE INVESTIGATION - NEW HOPE SCHOOL**
Logged by: **SB**
Borehole Location: **9-15 Quarry Road, Dural NSW**
Checked by:

drill model & mounting: Geo-Probe Track | Easting: | slope: -90° | R.L. Surface:
hole diameter: 50 mm | Northing: | bearing: | datum:

drilling information | **material substance**

method	penetration 1 2 3	support	water	notes samples, tests, etc	well details	RL	depth metres	graphic log	classification symbol	material: soil type: plasticity or particle characteristics, colour, secondary and minor components.	moisture condition	consistency/ density index	structure and additional observations
SS			▶				0.5			Vegetation - Fresh Grass **Silty SAND** fine to medium grained, dark brown in colour, very fine to medium sub-angular gravels, grass rootlets			
										Silty CLAY fine to medium grained, pale yellow in colour, very fine to fine sub-angular gravels			
							1.0			**Sandy CLAY** fine to medium grained, pale orange in colour, fine sub-angular gravels			
							1.5			**SANDSTONE** fine to medium grained, pale brown/red-brown in colour			
							2.0						
							2.5						
							3.0						
							3.5						
							4.0						
							4.5						
							5.0			Borehole terminated at 4.57m			

method
DT diatube
PT push tube
SS soild stem flight auger
HS hollow stem flight auger
VT V Bit, T Bit
AH air hammer
CP cable percussive
HA hand auger
NDD non-destructive digging
RC rock corer

support
C casing N nil

penetration
1 2 3 4 no resistance ranging to refusal

water
10/1/98 water level on date shown
water inflow
water outflow

notes, samples, tests
U_{50} undisturbed sample 50mm diameter
D disturbed sample
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
P pressure meter
Bs bulk sample
R refusal
E environmental sample
PID PID measurement
WS water sample
PZ piezometer
ALT air lift test

classification symbols and soil description
based on unified classification system

moisture
D dry
M moist
W wet
Wp plastic limit
W_L liquid limit

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

PIEZOMETER GINT STD US LAB.GPJ COFFEY.GDT 4.29.20
Form GEO 5.10 Issue 3 Rev.0

Appendix F - Calibration Certificates

DSI - NEW HOPE.

13/03/2020

PID Calibration Certificate

Instrument **PhoCheck Tiger**
Serial No. **T-114000**

airmet

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
	Recharge OK?	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
Pump	Operation	✓	
	Filter	✓	
	Flow	✓	
	Valves, Diaphragm	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	PID	✓	10.6ev
Alarms	Beeper	✓	Low: 50ppm; High: 100ppm; TWA: N/A; STEL: N/A
	Settings	✓	
Software	Version	✓	
Data logger	Operation	✓	
Download	Operation	✓	
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Calibration gas and concentration	Certified	Gas bottle No		Instrument Reading
PID Lamp		92ppm Isobutylene	NIST	SY245		91.2ppm

Calibrated by: **Darcy Keogh**

Calibration date: **13/03/2020**

Next calibration due: **9/09/2020**

Multi Parameter Water Meter

Instrument **YSI Pro DSS**
Serial No. **18D102529**

KIWET / NEW HOPE

airmet
Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
	Recharge OK?	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH/ORP	✓	
	2. Turbidity	✓	
	3. Conductivity	✓	
	4. D.O	✓	
	5. Temp	✓	
	6. Depth	x	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. EC		2.76mS		333787	2.75mS
2. Temp		21.6°C		Testo	21°C
3. pH 4		pH 4.00		330734	pH 4.02
4. pH 7		pH 7.00		320613	pH 7.03
5. pH10		pH 10.00		349209	pH 9.82
6. DO		0.00ppm		335947	-0.03ppm
7. mV		231.8mV		346052/342074	231.3mV
8.Tubidity		20NTU		335947	18.3NTU

Calibrated by: **Sarah Lian**

Calibration date: **21/03/2020**

Next calibration due: **20/04/2020**

Appendix G - Proposed Development Drawings

DEVELOPMENT APPLICATION

NEW HOPE SCHOOL

FOR

PACIFIC HILLS CHRISTIAN SCHOOL

AT

9 QUARRY ROAD, DURAL NSW 2158

DEVELOPMENT APPLICATION DRAWING LIST

DRAWING NO.	DRAWING NAME	DESCRIPTION	DATE	REVISON
DA-000	COVER SHEET	DEVELOPMENT APPLICATION	11.11.19	4
DA-001	NOTIFICATION PLAN	DEVELOPMENT APPLICATION	11.11.19	3
DA-002	SITE ANALYSIS	DEVELOPMENT APPLICATION	11.11.19	4
DA-004	EXISTING SITE PLAN	DEVELOPMENT APPLICATION	11.11.19	4
DA-005	PROPOSED SITE PLAN	DEVELOPMENT APPLICATION	11.11.19	4
DA-006	PROPOSED SITE PLAN	DEVELOPMENT APPLICATION	11.11.19	2
DA-100	OVERALL GROUND FLOOR PLAN	DEVELOPMENT APPLICATION	11.11.19	5
DA-101	CARPARK FLOOR PLAN (STAGE 1)	DEVELOPMENT APPLICATION	11.11.19	4
DA-102	ADMIN & CLASSROOM FLOOR PLAN (STAGE 2)	DEVELOPMENT APPLICATION	11.11.19	4
DA-103	SPECIALTY AREAS & CLASSROOM FLOOR PLAN (STAGE 3&4)	DEVELOPMENT APPLICATION	11.11.19	4
DA-104	OVERALL BASEMENT PLAN	DEVELOPMENT APPLICATION	11.11.19	2
DA-110	OVERALL ROOF PLAN	DEVELOPMENT APPLICATION	11.11.19	5
DA-300	OVERALL ELEVATIONS	DEVELOPMENT APPLICATION	11.11.19	5
DA-302	ADMIN & CLASSROOM ELEVATIONS (STAGE 2)	DEVELOPMENT APPLICATION	11.11.19	2
DA-303	SPECIALTY AREAS & CLASSROOMS ELEVATIONS (STAGE 3&4)	DEVELOPMENT APPLICATION	11.11.19	2
DA-400	CUT & FILL OVERALL SECTION	DEVELOPMENT APPLICATION	11.11.19	2
DA-401	STAGE 1 SECTIONS	DEVELOPMENT APPLICATION	11.11.19	2
DA-402	STAGE 2 SECTIONS	DEVELOPMENT APPLICATION	11.11.19	2
DA-403	STAGE 3&4 SECTIONS	DEVELOPMENT APPLICATION	11.11.19	2
DA-500	SHADOWS DIAGRAM JUNE 9am	DEVELOPMENT APPLICATION	11.11.19	2
DA-501	SHADOWS DIAGRAM JUNE 12pm	DEVELOPMENT APPLICATION	11.11.19	2
DA-502	SHADOWS DIAGRAM JUNE 3pm	DEVELOPMENT APPLICATION	11.11.19	2
DA-600	EXTERNAL FINISHES	DEVELOPMENT APPLICATION	11.11.19	1
DA-900	SIGNAGE PLAN AND ELEVATIONS	DEVELOPMENT APPLICATION	11.11.19	1

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	15.04.19	UPDATE	SJF
2	03.05.19	WORK IN PROGRESS	SJF
3	17.05.19	CONSULTANT UPDATE	SJF
4	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
COVER SHEET

Date 12/11/2019 3:29:08 PM
Scale 1 : 1 @ A1

Drawing Reference Revision
17369-NBRS-AWD-DA-000 4

1 NOTIFICATION PLAN
1 : 1000

2 RENDER
1 : 1

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	17.05.19	CONSULTANT UPDATE	SJF
2	05.07.19	PRE DA	SJF
3	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

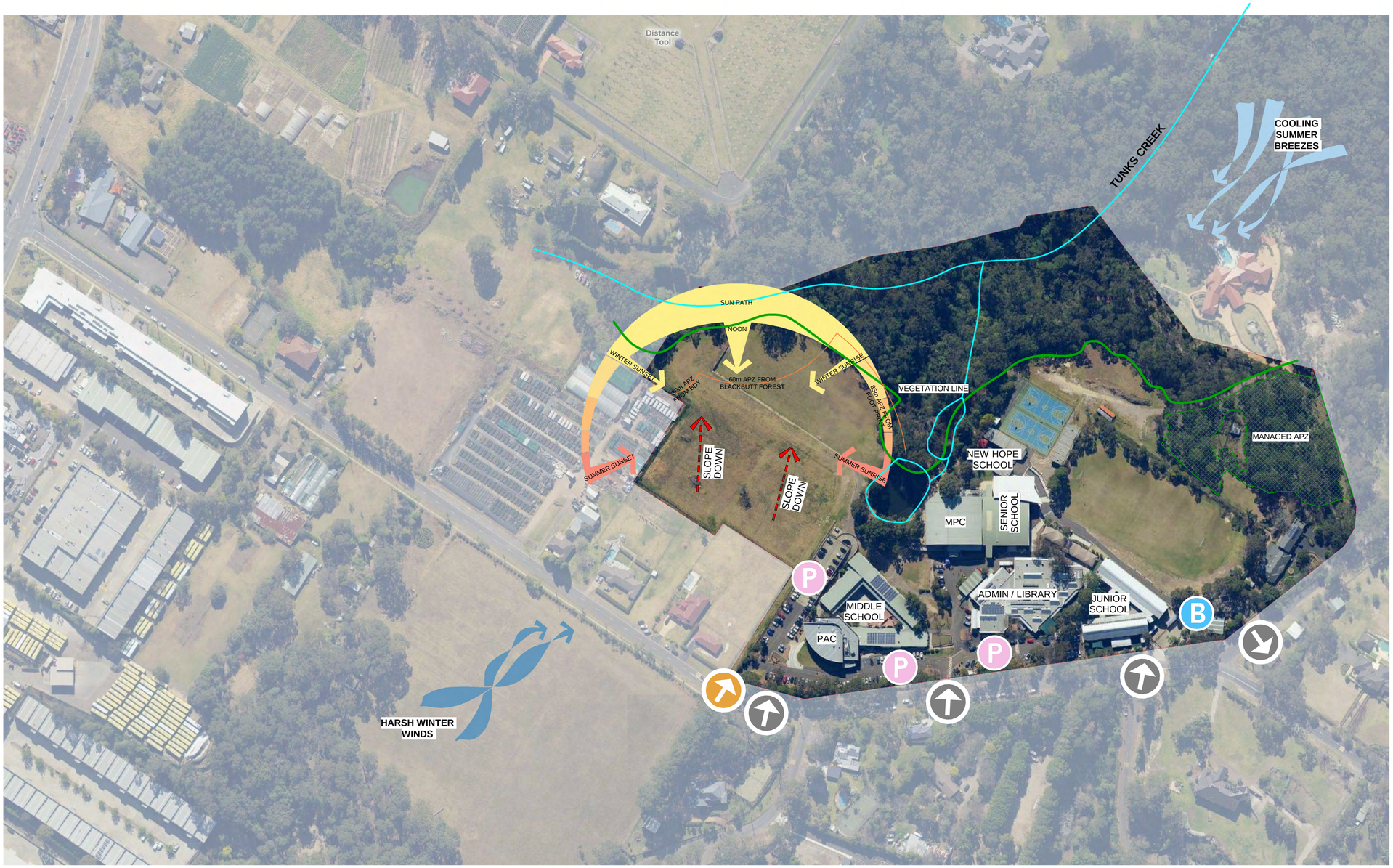
for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
NOTIFICATION PLAN

Date 12/11/2019 3:29:15 PM
Scale As indicated @ A1

Drawing Reference 17369-NBRS-AWD-DA-001
Revision 3

Pacific Hills Christian School | New Hope School



NBRS ARCHITECTURE.

LEGEND

- SITE FALL
- SUN PATH DIAGRAM
- PREVAILING WIND DIRECTION
- BOUNDARY
- BUILDING SETBACK
- ACCESS FROM STREET
- EXISTING VEHICLE ENTRY/EXIT
- NEW VEHICLE ENTRY/EXIT
- PARKING
- BUS BAY

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	15.04.19	UPDATE	SJF
2	17.05.19	CONSULTANT UPDATE	SJF
3	05.07.19	PRE DA	SJF
4	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602

NBRS & Partners Pty Ltd VIC 51197 ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
SITE ANALYSIS

Date 12/11/2019 3:29:18 PM
Scale As indicated @ A1

Drawing Reference 17369-NBRS-AWD-DA-002
Revision 4

Pacific Hills Christian School | New Hope School

NBRSARCHITECTURE.

LEGEND

- SITE FALL
- SUN PATH DIAGRAM
- PREVAILING WIND DIRECTION
- BOUNDARY
- BUILDING SETBACK
- ACCESS FROM STREET
- EXISTING VEHICLE ENTRY/EXIT
- NEW VEHICLE ENTRY/EXIT
- PARKING
- BUS BAY

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	15.04.19	UPDATE	SJF
2	17.05.19	CONSULTANT UPDATE	SJF
3	05.07.19	PRE DA	SJF
4	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
EXISTING SITE PLAN

Date 12/11/2019 3:29:27 PM
Scale As indicated @ A1

Drawing Reference
17369-NBRS-AWD-DA-004

Revision
4

Pacific Hills Christian School | New Hope School

NBRSARCHITECTURE.

LEGEND

- SITE FALL
- SUN PATH DIAGRAM
- PREVAILING WIND DIRECTION
- BOUNDARY
- BUILDING SETBACK
- ACCESS FROM STREET
- EXISTING VEHICLE ENTRY/EXIT
- NEW VEHICLE ENTRY/EXIT
- PARKING
- BUS BAY

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	15.04.19	UPDATE	SJF
2	17.05.19	CONSULTANT UPDATE	SJF
3	05.07.19	PRE DA	SJF
4	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRSARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
PROPOSED SITE PLAN

Date 12/11/2019 3:29:36 PM
Scale As indicated @ A1

Drawing Reference
17369-NBRS-AWD-DA-005

Revision
4

Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

LEGEND

- SITE FALL
- SUN PATH DIAGRAM
- PREVAILING WIND DIRECTION
- BOUNDARY
- BUILDING SETBACK
- ACCESS FROM STREET
- EXISTING VEHICLE ENTRY/EXIT
- NEW VEHICLE ENTRY/EXIT
- PARKING
- BUS BAY

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	05.07.19	PRE DA	SJF
2	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
PROPOSED SITE PLAN

Date 12/11/2019 3:29:47 PM
Scale As indicated @ A1

Drawing Reference
17369-NBRS-AWD-DA-006

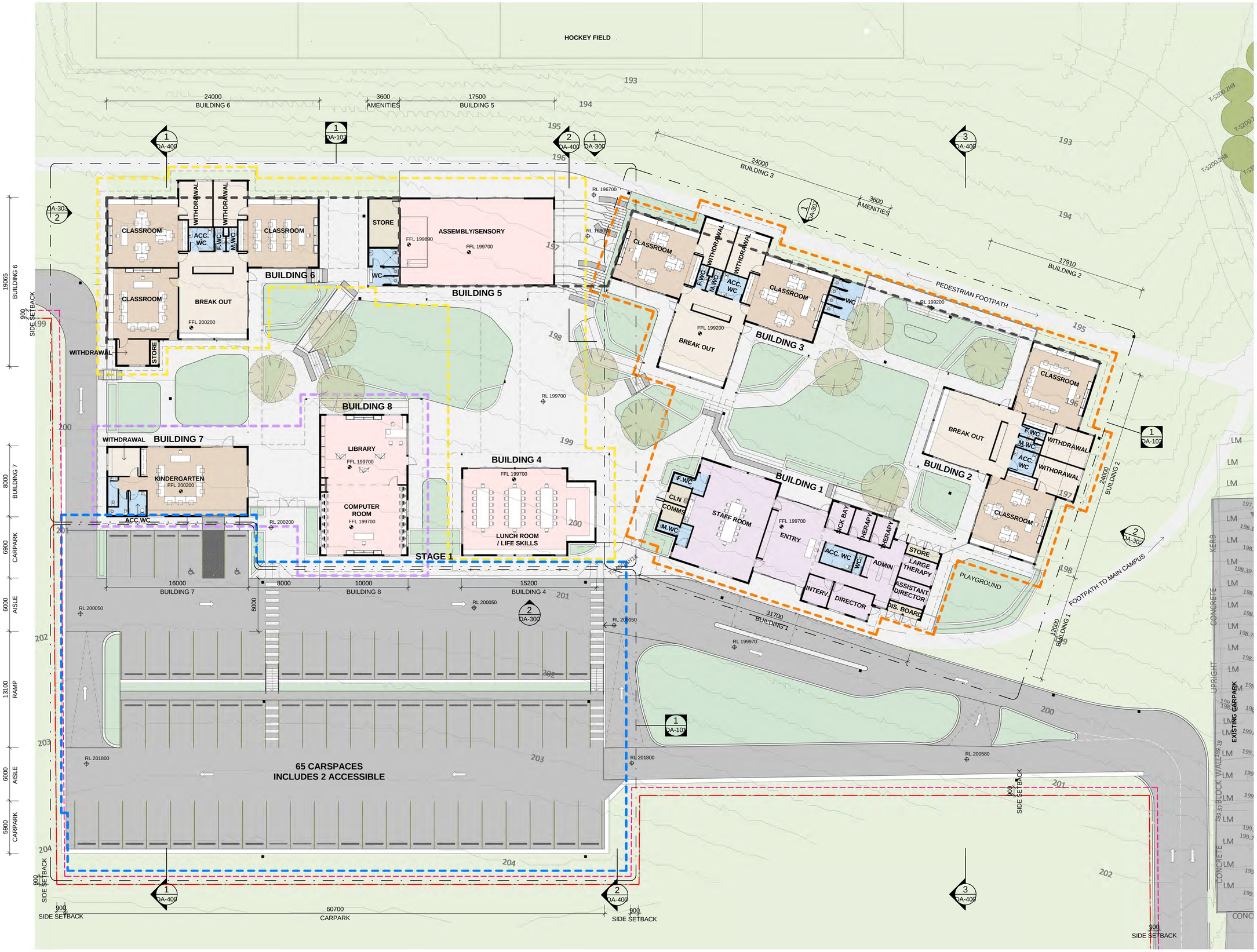
Revision
2

Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

STAGING LEGEND

- STAGE 1
- STAGE 2
- STAGE 3
- STAGE 4
- RETAINING WALL
- SETBACK REQ. BY COUNCIL



PRELIMINARY

Issue

No.	Date	Description	Chkd
1	15.04.19	UPDATE	SJF
2	03.05.19	WORK IN PROGRESS	SJF
3	17.05.19	CONSULTANT UPDATE	SJF
4	05.07.19	PRE DA	SJF
5	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
OVERALL GROUND FLOOR PLAN

Date 12/11/2019 3:30:35 PM
Scale 1 : 200 @ A1

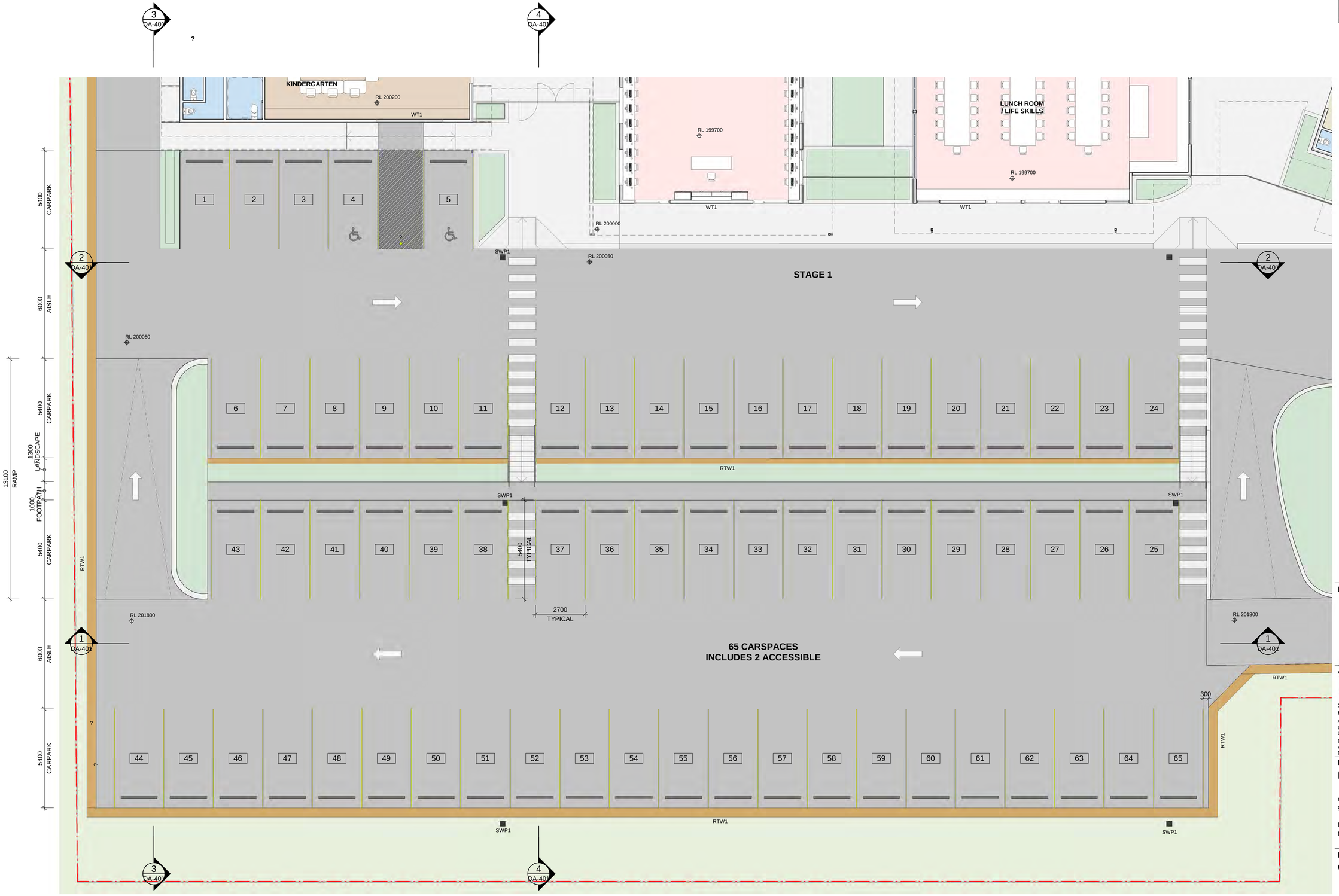
Drawing Reference
17369-NBRS-AWD-DA-100

Revision
5

Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
RTW1	SANDSTONE RETAINING WALL
SWP1	STORMWATER PIT (REFER TO HYDRAULIC ENGINEER'S DETAILS)
WT1	EXTERNAL WALL CFC SHEET PAITNED



PRELIMINARY

Issue

No.	Date	Description	Chkd
1	03.05.19	WORK IN PROGRESS	SJF
2	17.05.19	CONSULTANT UPDATE	SJF
3	05.07.19	PRE DA	SJF
4	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
CARPARK FLOOR PLAN (STAGE 1)

Date 12/11/2019 3:30:41 PM
Scale 1 : 100 @ A1

Drawing Reference
17369-NBRS-AWD-DA-101

Revision
4

Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
PT1	INTERNAL PARTITION 13mm IMPACTCHEK BOTH SIDES, 92mm STUD WITH INSULATION
SWP1	STORMWATER PIT (REFER TO HYDRAULIC ENGINEER'S DETAILS)
WT1	EXTERNAL WALL CFC SHEET PAITNED

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	03.05.19	WORK IN PROGRESS	SJF
2	17.05.19	CONSULTANT UPDATE	SJF
3	05.07.19	PRE DA	SJF
4	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
ADMIN & CLASSROOM FLOOR PLAN (STAGE 2)

Date 12/11/2019 3:30:48 PM
Scale 1 : 100 @ A1

Drawing Reference
17369-NBRS-AWD-DA-102

Revision
4

Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
PT1	INTERNAL PARTITION 13mm IMPACTCHEK BOTH SIDES, 92mm STUD WITH INSULATION
RTW1	SANDSTONE RETAINING WALL
SWP1	STORMWATER PIT (REFER TO HYDRAULIC ENGINEER'S DETAILS)
WT1	EXTERNAL WALL CFC SHEET PAITNED

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	03.05.19	WORK IN PROGRESS	SJF
2	17.05.19	CONSULTANT UPDATE	SJF
3	05.07.19	PRE DA	SJF
4	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect

NBRS ARCHITECTURE.

Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
SPECIALTY AREAS & CLASSROOM FLOOR PLAN (STAGE 3&4)

Date 12/11/2019 3:30:54 PM
Scale 1 : 100 @ A1

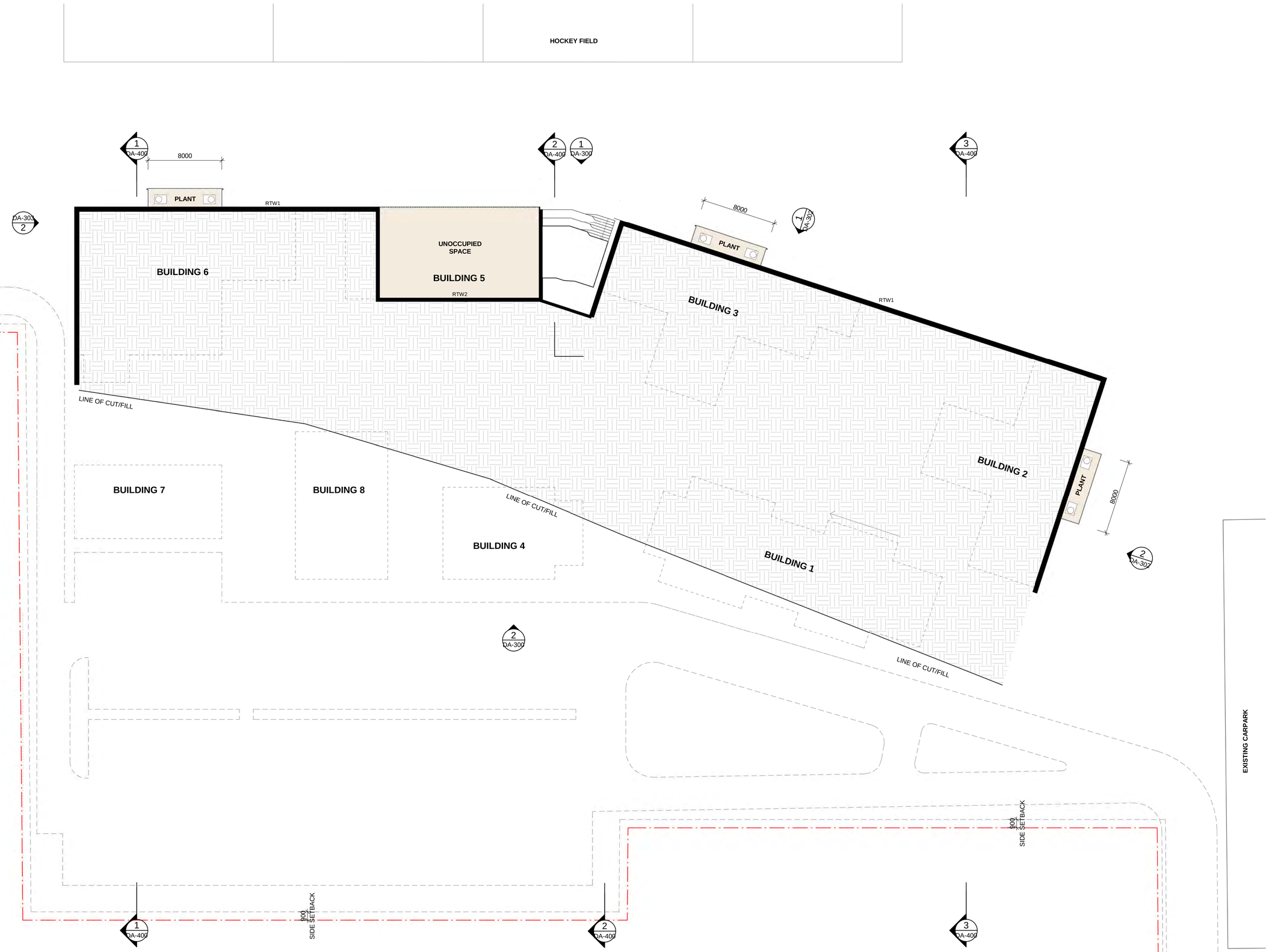
Drawing Reference
17369-NBRS-AWD-DA-103

Revision
4

Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
RTW1	SANDSTONE RETAINING WALL
RTW2	BLOCKWORK RETAINING WALL



PRELIMINARY

Issue

No.	Date	Description	Chkd
1	05.07.19	PRE DA	SJF
2	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
OVERALL BASEMENT PLAN

Date 12/11/2019 3:30:57 PM
Scale 1 : 200 @ A1

Drawing Reference
17369-NBRS-AWD-DA-104

Revision
2

Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
DP1	100DIA DOWNPIPES COLORBOND MONUMENT
GUT1	200DIA HALD ROUND GUTTER COLORBOND MONUMENT
ME1	COSTUM ORB METAL ROOF COLORBOND MONUMENT
SWP1	STORMWATER PIT (REFER TO HYDRAULIC ENGINEER'S DETAILS)

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	15.04.19	UPDATE	SJF
2	03.05.19	WORK IN PROGRESS	SJF
3	17.05.19	CONSULTANT UPDATE	SJF
4	05.07.19	PRE DA	SJF
5	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
OVERALL ROOF PLAN

Date 12/11/2019 3:31:01 PM
Scale 1 : 200 @ A1

Drawing Reference 17369-NBRS-AWD-DA-110
Revision 5

Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
CFC1	COMPRESSED FIBRE CEMENT CLADDING PAINT DULUX HAMMER GREY
DP1	100DIA DOWNPIPES COLORBOND MONUMENT
GUT1	200DIA HALD ROUND GUTTER COLORBOND MONUMENT
ME1	COSTUM ORB METAL ROOF COLORBOND MONUMENT
ST1	1000x500x500 SANDSTONE BLOCK

1 NORTH ELEVATION
1 : 200

2 SOUTH ELEVATION
1 : 200

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	15.04.19	UPDATE	SJF
2	03.05.19	WORK IN PROGRESS	SJF
3	17.05.19	CONSULTANT UPDATE	SJF
4	05.07.19	PRE DA	SJF
5	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect

NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
OVERALL ELEVATIONS

Date 12/11/2019 3:32:20 PM
Scale 1 : 200 @ A1

Drawing Reference
17369-NBRS-AWD-DA-300

Revision
5

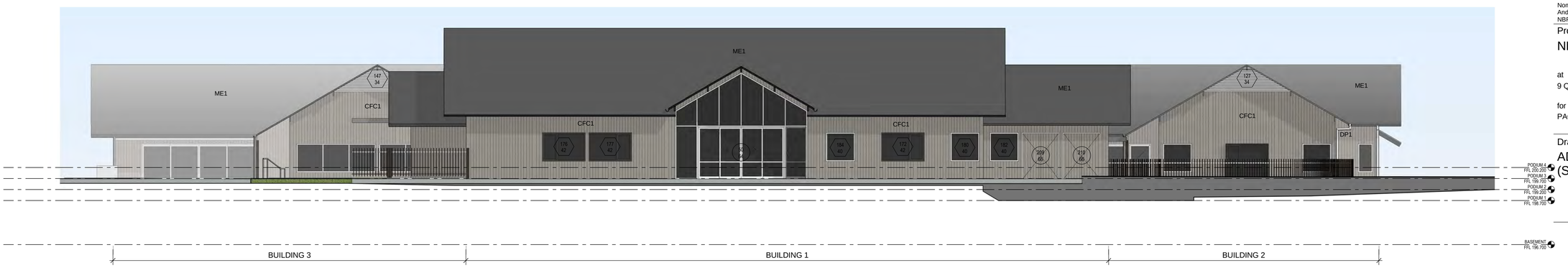
Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
CFC1	COMPRESSED FIBRE CEMENT CLADDING PAINT DULUX HAMMER GREY
DP1	100DIA DOWNPIPES COLORBOND MONUMENT
GUT1	200DIA HALD ROUND GUTTER COLORBOND MONUMENT
ME1	COSTUM ORB METAL ROOF COLORBOND MONUMENT
ST1	1000x500x500 SANDSTONE BLOCK

1 STAGE 2 NORTH ELEVATION
1 : 100

2 EAST ELEVATION(STAGE 2)
1 : 100



3 SOUTH ELEVATION(ASTAGE 2)
1 : 100

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	05.07.19	PRE DA	SJF
2	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
ADMIN & CLASSROOM ELEVATIONS (STAGE 2)

Date 12/11/2019 3:33:29 PM
Scale 1 : 100 @ A1

Drawing Reference
17369-NBRS-AWD-DA-302

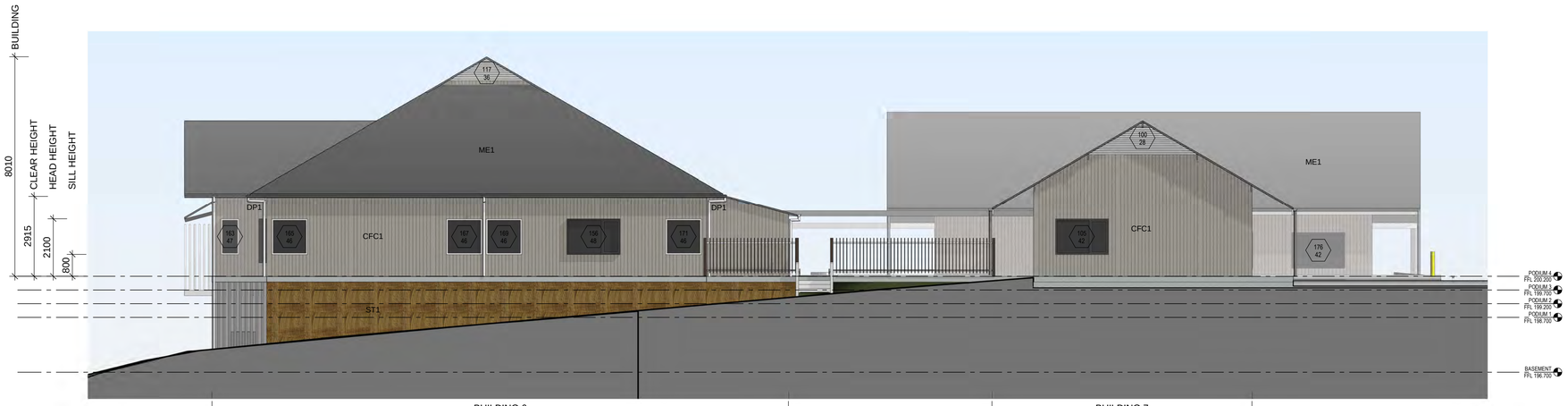
Revision
2

Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
CFC1	COMPRESSED FIBRE CEMENT CLADDING PAINT DULUX HAMMER GREY
DP1	100DIA DOWNPIPES COLORBOND MONUMENT
ME1	COSTUM ORB METAL ROOF COLORBOND MONUMENT
ST1	1000x500x500 SANDSTONE BLOCK

1 NORTH ELEVATION (STAGE 3&4)
1 : 100



2 WEST ELEVATION (STAGE 3&4)
1 : 100

3 SOUTHELEVATION (STAGE 3&4)
1 : 100

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	05.07.19	PRE DA	SJF
2	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

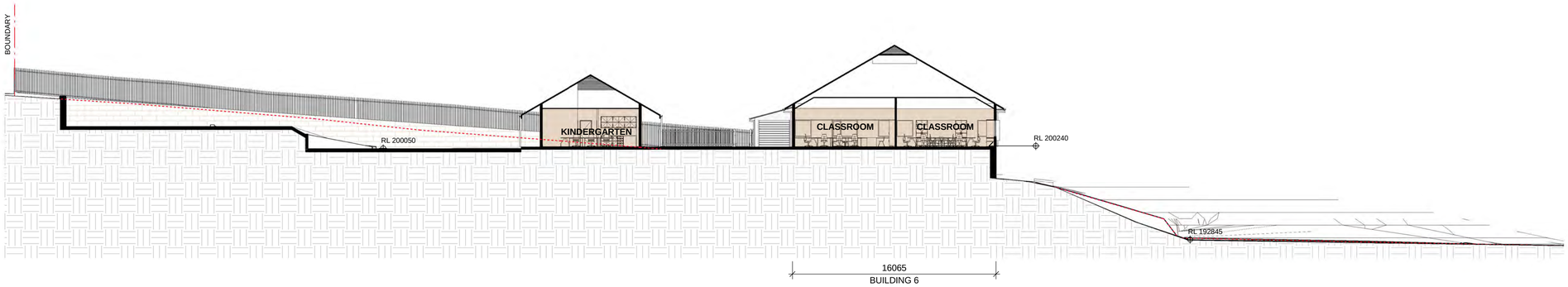
at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

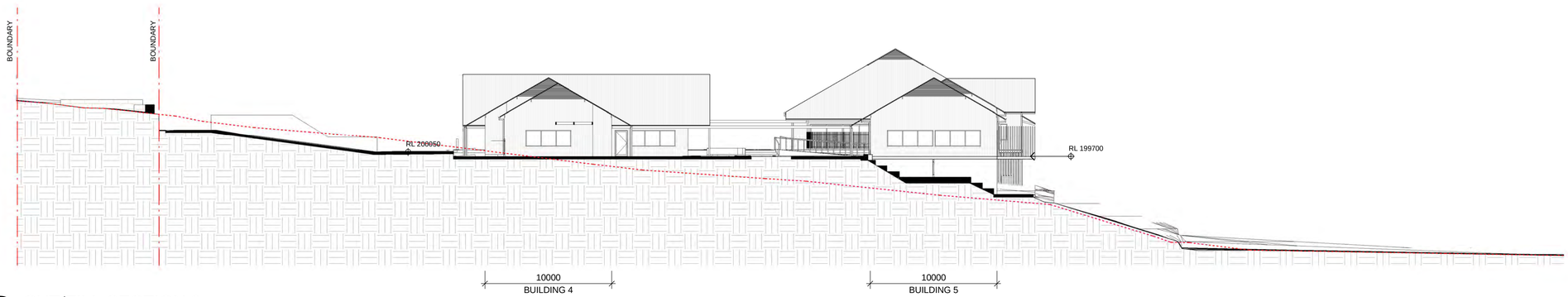
Drawing Title
SPECIALTY AREAS & CLASSROOMS ELEVATIONS (STAGE 3&4)

Date 12/11/2019 3:34:43 PM
Scale 1 : 100 @ A1

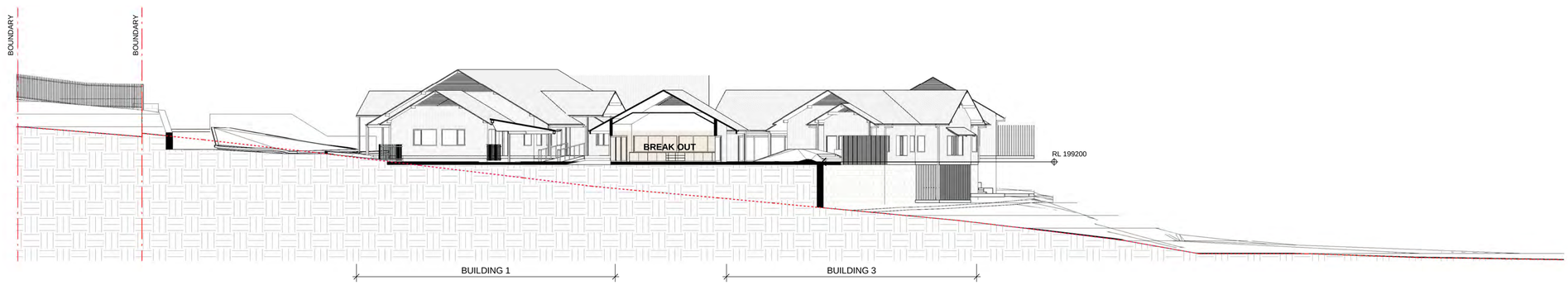
Drawing Reference 17369-NBRS-AWD-DA-303
Revision 2



1 CUT/FILL SECTION 1
1 : 200



2 CUT/FILL SECTION 2
1 : 200



3 CUT/FILL SECTION 3
1 : 200

Pacific Hills Christian School
New Hope School

NBRS ARCHITECTURE.

CODE DESCRIPTIONS

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	05.07.19	PRE DA	SJF
2	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
CUT & FILL OVERALL SECTION

Date 12/11/2019 3:34:49 PM
Scale 1 : 200 @ A1

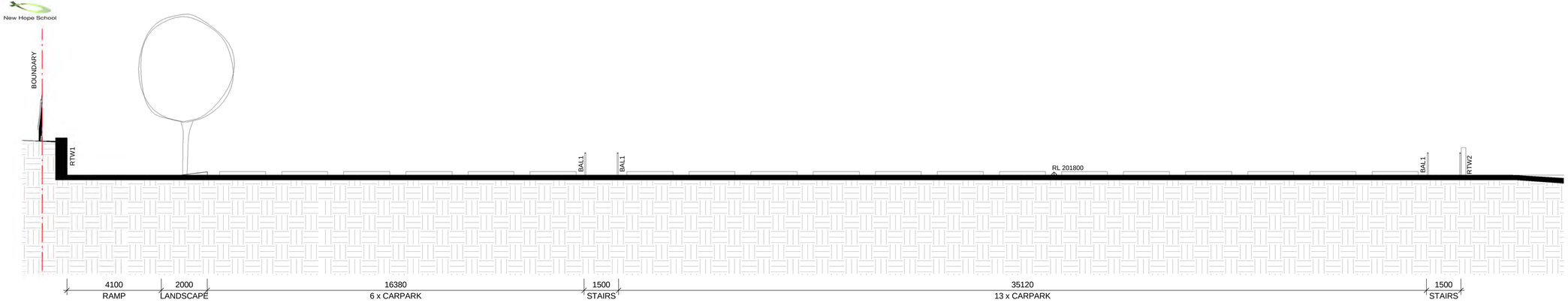
Drawing Reference
17369-NBRS-AWD-DA-400

Revision
2

Pacific Hills Christian School | New Hope School

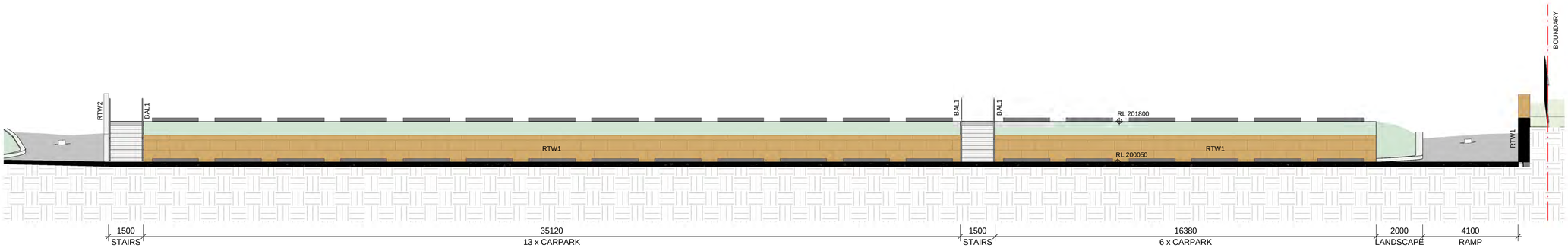
NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
BAL1	
RTW1	SANDSTONE RETAINING WALL
RTW2	BLOCKWORK RETAINING WALL



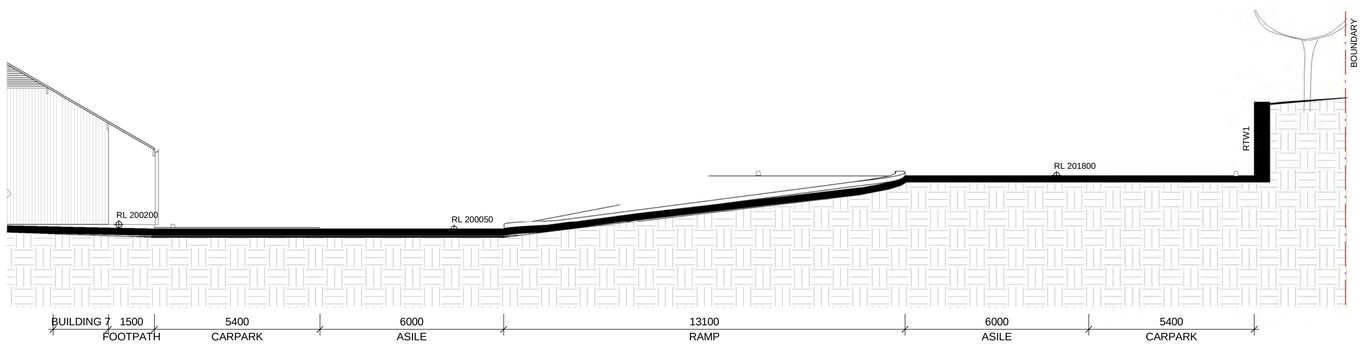
1 S1 LONG SECTION 1

1 : 100



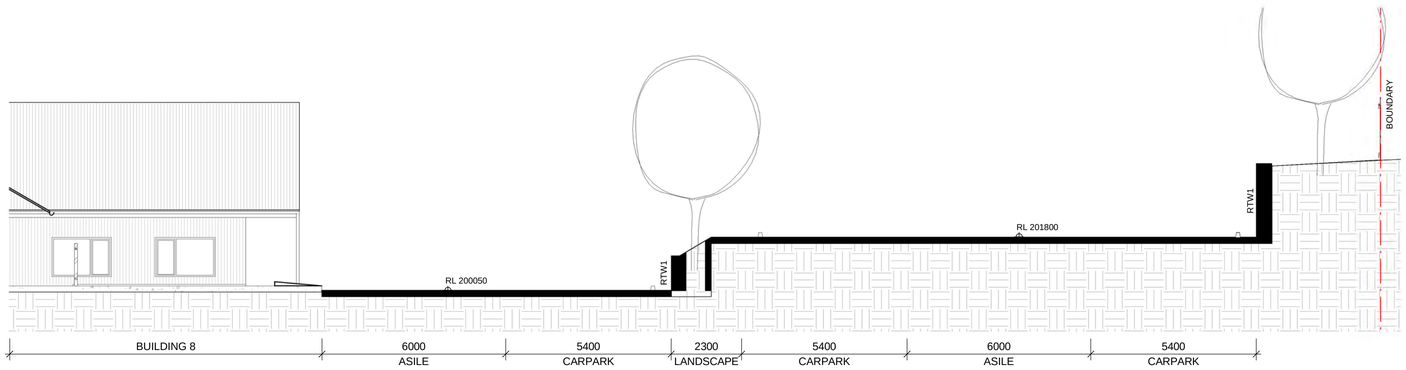
2 S1 LONG SECTION 2

1 : 100



3 S1 CROSS SECTION 1

1 : 100



4 S1 CROSS SECTION 2

1 : 100

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	05.07.19	PRE DA	SJF
2	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
STAGE 1 SECTIONS

Date 12/11/2019 3:34:56 PM
Scale 1 : 100 @ A1

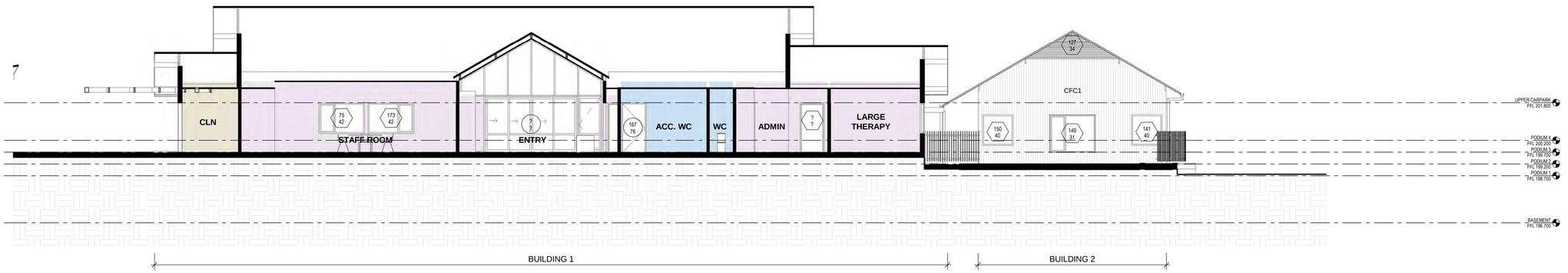
Drawing Reference
17369-NBRS-AWD-DA-401

Revision
2

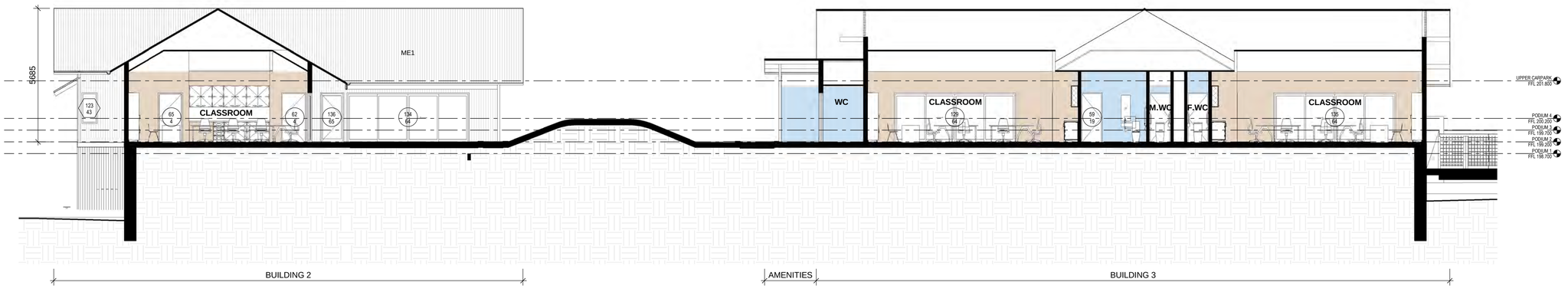
Pacific Hills Christian School | New Hope School

NBRS ARCHITECTURE.

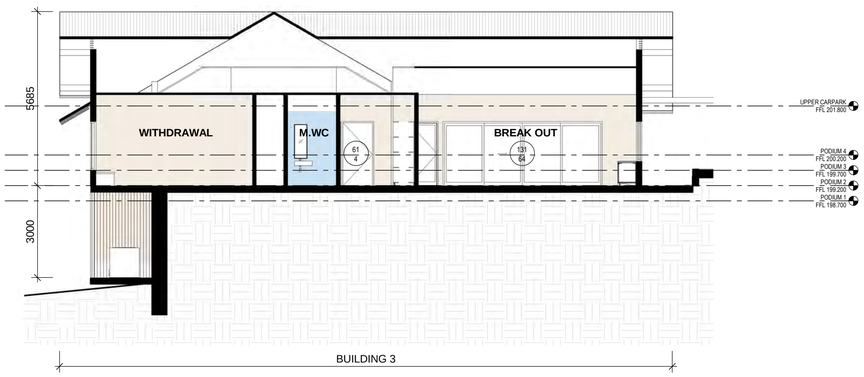
CODE	DESCRIPTIONS
CFC1	COMPRESSED FIBRE CEMENT CLADDING PAINT DULUX HAMMER GREY
ME1	COSTUM ORB METAL ROOF COLORBOND MONUMENT



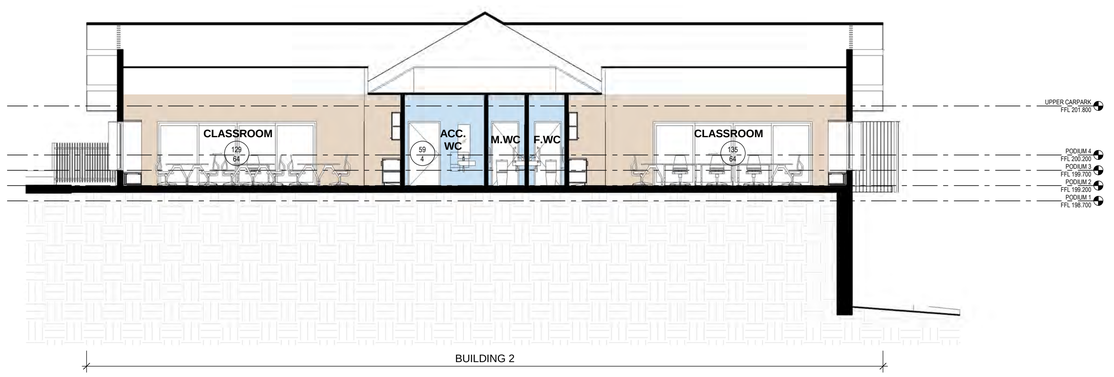
1 S2 LONG SECTION 1
1 : 100



2 S2 LONG SECTION 2
1 : 100



4 S2 CROSS SECTION 2
1 : 100



3 S2 CROSS SECTION 1
1 : 100

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	05.07.19	PRE DA	SJF
2	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
STAGE 2 SECTIONS

Date 12/11/2019 3:35:03 PM
Scale 1 : 100 @ A1

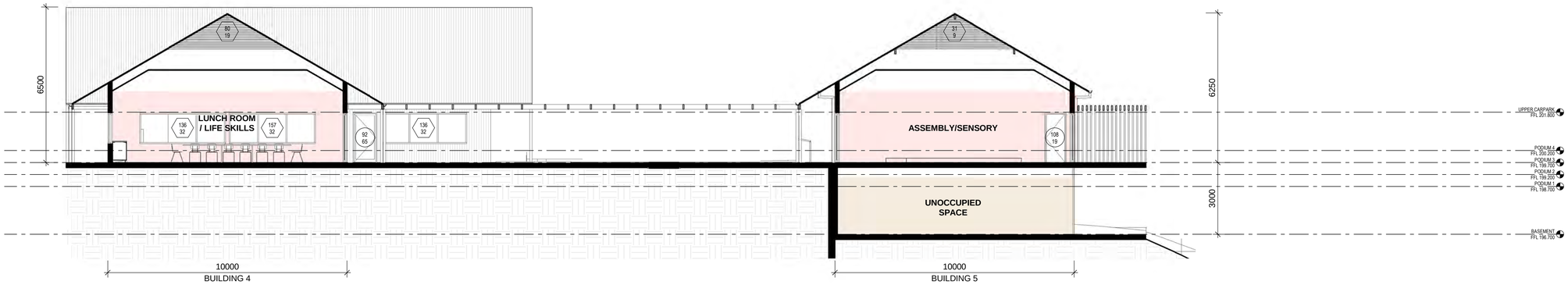
Drawing Reference
17369-NBRS-AWD-DA-402

Revision
2

Pacific Hills Christian School | New Hope School

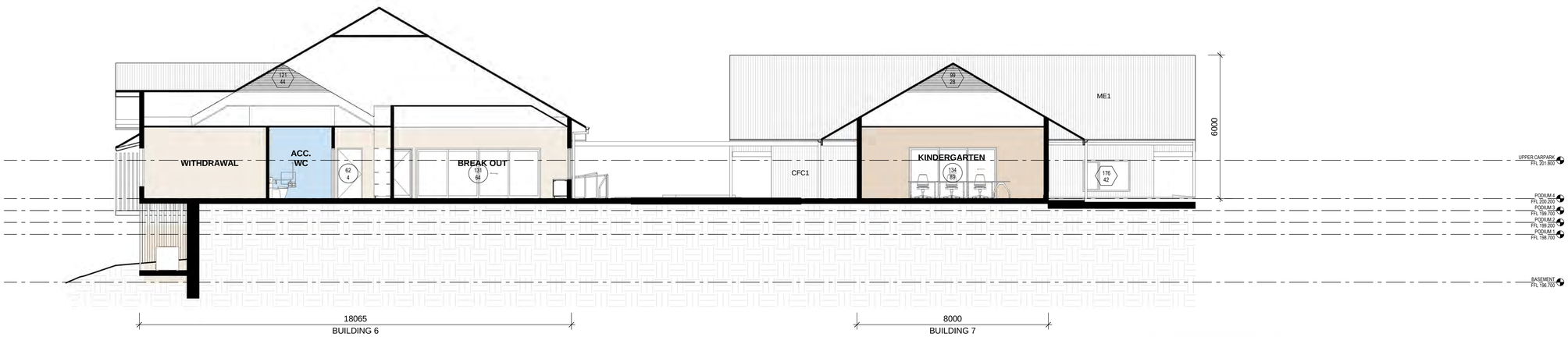
NBRS ARCHITECTURE.

CODE	DESCRIPTIONS
CFC1	COMPRESSED FIBRE CEMENT CLADDING PAINT DULUX HAMMER GREY
ME1	COSTUM ORB METAL ROOF COLORBOND MONUMENT



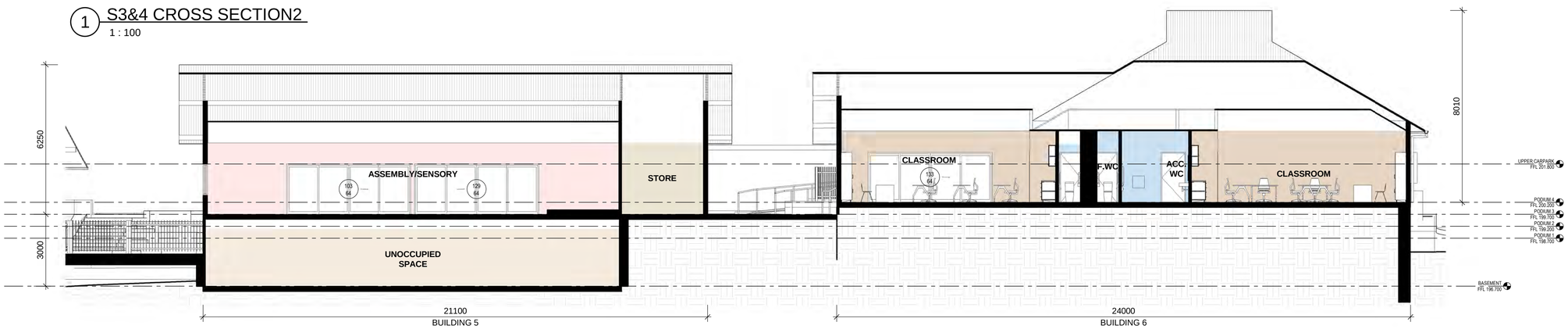
2 S3&4 CROSS SECTION 1

1 : 100



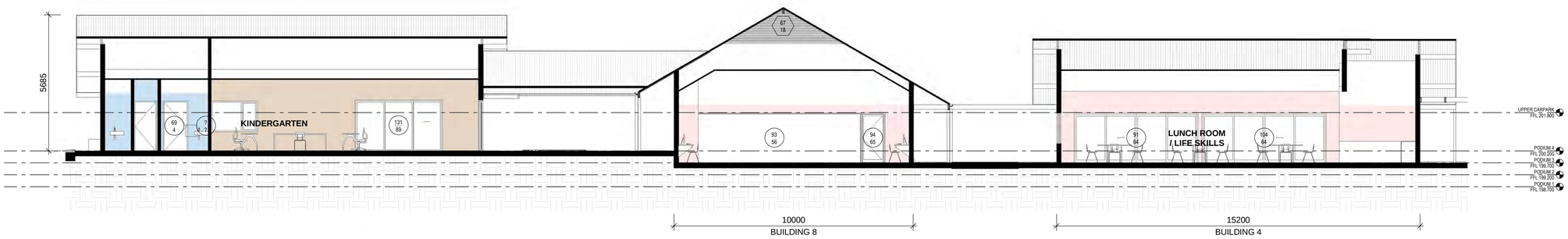
1 S3&4 CROSS SECTION2

1 : 100



3 S3&4 LONG SECTION 1

1 : 100



4 S3&4 LONG SECTION 2

1 : 100

PRELIMINARY

Issue

No.	Date	Description	Chkd
1	05.07.19	PRE DA	SJF
2	11.11.19	DEVELOPMENT APPLICATION	SJF

Architect
NBRS ARCHITECTURE.
Sydney
61 2 9922 2344 nbrsarchitecture.com

Nominated Architects:
Andrew Duffin NSW 5602
NBRS & Partners Pty Ltd VIC 51197

ABN 16 002 247 565

Project
NEW HOPE SCHOOL

at
9 QUARRY ROAD, DURAL NSW 2158

for
PACIFIC HILLS CHRISTIAN SCHOOL

Drawing Title
STAGE 3&4 SECTIONS

Date 12/11/2019 3:35:10 PM
Scale 1 : 100 @ A1

Drawing Reference 17369-NBRS-AWD-DA-403
Revision 2

Appendix H - NATA Accredited Laboratory Reports

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 3 5912

coffey

Consigning Office: WARWICK BRICK

Report Results to: SEAN BLACKFORD Mobile: 0418 549 796 Email: sean.blackford@coffey.com

Invoices to: GEN - ADMIN Phone: - Email: @coffey.com

Project No: NTLEN272143 Task No: LAB

Project Name: NEW MOPE DSI Laboratory: MGT

Sampler's Name: S. BLACKFORD Project Manager: SEAN. BLACKFORD

Special Instructions: Std - T.A.T please

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	SUITE B7	SUITE B15	NOTES
	CBH01 - 0.0 - 0.2	18/3	AM	SOIL	J	Std	X	X	
	0.5 - 0.6						X	X	
	1.0 - 1.1								
	1.9 - 2.0								
	CBH02 - 0.0 - 0.2						X	X	
	0.5 - 0.6						X	X	
	1.0 - 1.1								
	1.6 - 1.7								
	CBH03 - 0.0 - 0.2						X	X	
	0.5 - 0.6								
	1.0 - 1.1						X	X	
	1.9 - 2.0								
	CBH04 - 0.0 - 0.2						X	X	
	0.5 - 0.6								
	1.0 - 1.1								
	1.9 - 2.0						X	X	
	CBH05 - 0.0 - 0.2						X	X	
	- 0.5 - 0.6						X	X	

Date/Time: 19/3/20 1.10

Chilled: Yes / No

Temp: 11.1 16.8 11.0

Correction: -0.5

Final Temp: 12.4.

RELINQUISHED BY

Name: SEAN. BLACKFORD Date: 19.03.20

Coffey Environments Time: 1400

Name: Date:

Company: Time:

RECEIVED BY

Name: K. FOLEY Date: 19/3/20.

Company: Time: 2pm.

Name: Date:

Company: Time:

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☑

All Documentation is in Proper Order ☑

Samples Received Properly Chilled ☑

Lab. Ref/Batch No. 708902

*Container Type & Preservation Codes: **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock Bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative, **OP** - Other Preservative

GOWANS PRINTING (02) 9755 3545

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

 5913

coffey

Consigning Office:

Report Results to: 2 of 3 Mobile: Email: @coffey.com

Invoices to: Phone: Email: @coffey.com

Project No: Task No:

Project Name: Laboratory:

Sampler's Name: Project Manager:

Special Instructions: SEE PAGE 1

Analysis Request Section

SUITE B7

SUITE B15

NOTES

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	B7	B15
	CBH05 - 1.0 - 1.1	18/3						
	1.9 - 2.0							
	CBH06 - 0.0 - 0.2						X	X
	0.5 - 0.6							
	1.0 - 1.1						X	X
	1.5 - 1.6							
	CBH07 - 0.0 - 0.2							
	0.5 - 0.6						X	X
	1.0 - 1.1						X	X
	1.6 - 1.7							
	CBH08 - 0.0 - 0.2						X	X
	0.5 - 0.6							
	1.0 - 1.1						X	X
	1.9 - 2.0							
	CBH09 - 0.0 - 0.2						X	X
	0.5 - 0.6						X	X
	1.0 - 1.1							
	1.9 - 2.0							

RELINQUISHED BY		RECEIVED BY	
Name:	Date:	Name: K. Foley	Date: 19/3/20
Coffey Environments	Time:	Company:	Time: 2pm.
Name:	Date:	Name:	Date:
Company:	Time:	Company:	Time:

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☑

All Documentation is in Proper Order ☑

Samples Received Properly Chilled ☑

Lab. Ref/Batch No.

***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock Bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative, **OP** - Other Preservative

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

 5915

coffey

Consigning Office:

Report Results to: 1 of 3 Mobile: Email: @coffey.com

Invoices to: Phone: Email: @coffey.com

Project No: Task No:

Project Name: Laboratory:

Sampler's Name: Project Manager: see page 1

Special Instructions:

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	SUITE B15	SUITE B7	SUITE B1	NOTES
	CBH1C - 0.0 - 0.2	18/3		Soil	J	STD	X	X		
	0.5 - 0.6						X	X		
	1.0 - 1.1									
	1.9 - 2.0									
	QC1						X	X		SEND TO ALS (5-16)
	QC2									
	QC3									
	QC4						X	X		SEND TO ALS (5-16)
	TS				V x 2				X	

RELINQUISHED BY			RECEIVED BY		
Name: SEAN. BLACKFORD	Date: 19/3/20	→	Name: K. Foley	Date: K Foley 19/3/20	
Coffey Environments	Time:		Company:	Time: 2pm	
Name:	Date:	→	Name:	Date:	
Company:	Time:		Company:	Time:	

Sample Receipt Advice: (Lab Use Only)

- All Samples Recieved in Good Condition ☑
- All Documentation is in Proper Order ☑
- Samples Received Properly Chilled ☑
- Lab. Ref/Batch No.

***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock Bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative, **OP** - Other Preservative

eurofins | Environment Testing

Melbourne
6 Monterey Road
Dandenong South Vic 3175
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

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 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Coffey Environments P/L N'castle**
Contact name:	Sean Blackford
Project name:	NEW MOPE DSI
Project ID:	NTLEN272143
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Mar 19, 2020 2:00 PM
Eurofins reference:	**708902**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 12.4 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.

☑ Appropriate sample containers have been used.

☑ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Notes

QC2, QC4 forwarded to ALS.

Contact notes

If you have any questions with respect to these samples please contact:

Andrew Black on Phone : (+61) 2 9900 8490 or by e.mail: AndrewBlack@eurofins.com

Results will be delivered electronically via e.mail to Sean Blackford - sean.blackford@coffey.com.

Note: A copy of these results will also be delivered to the general Coffey Environments P/L N'castle email address.

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IANZ # 1290

Company Name: Coffey Environments P/L N'castle
Address: 16 Callistemon Close
Warabrook
NSW 2304

Project Name: NEW MOPE DSI
Project ID: NTLEN272143

Order No.:
Report #: 708902
Phone: 02 4016 2300
Fax: 02 4016 2380

Received: Mar 19, 2020 2:00 PM
Due: Mar 26, 2020
Priority: 5 Day
Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						HOLD	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	CBH01_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29969		X	X	X	
2	CBH01_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29970		X	X	X	
3	CBH02_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29971		X	X	X	
4	CBH02_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29972		X	X	X	
5	CBH03_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29973		X	X	X	
6	CBH03_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29974		X	X	X	

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
7	CBH04_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29975		X	X	X	
8	CBH04_1.9-2.0	Mar 18, 2020		Soil	S20-Ma29976		X	X	X	
9	CBH05_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29977		X	X	X	
10	CBH05_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29978		X	X	X	
11	CBH06_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29979		X	X	X	
12	CBH06_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29980		X	X	X	
13	CBH07_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29981		X	X	X	
14	CBH07_1.0-	Mar 18, 2020		Soil	S20-Ma29982		X	X	X	

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
	1.1									
15	CBH08_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29983		X	X	X	
16	CBH08_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29984		X	X	X	
17	CBH09_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29985		X	X	X	
18	CBH09_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29986		X	X	X	
19	CBH10_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29987		X	X	X	
20	CBH10_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29988		X	X	X	
21	TS	Not Provided		Soil	S20-Ma29989					X
22	TB	Not Provided		Soil	S20-Ma29990					X

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Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
23	CBH01_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29992	X				
24	CBH01_1.9-2.0	Mar 18, 2020		Soil	S20-Ma29993	X				
25	CBH02_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29994	X				
26	CBH02_1.6-1.7	Mar 18, 2020		Soil	S20-Ma29995	X				
27	CBH03_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29996	X				
28	CBH03_1.9-2.0	Mar 18, 2020		Soil	S20-Ma29997	X				
29	CBH04_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29998	X				
30	CBH04_1.0-	Mar 18, 2020		Soil	S20-Ma29999	X				

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Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
	1.1									
31	CBH05_1.0-1.1	Mar 18, 2020		Soil	S20-Ma30000	X				
32	CBH05_1.9-2.0	Mar 18, 2020		Soil	S20-Ma30001	X				
33	CBH06_0.5-0.6	Mar 18, 2020		Soil	S20-Ma30002	X				
34	CBH06_1.5-1.6	Mar 18, 2020		Soil	S20-Ma30003	X				
35	CBH07_0.0-0.2	Mar 18, 2020		Soil	S20-Ma30004	X				
36	CBH07_1.6-1.7	Mar 18, 2020		Soil	S20-Ma30005	X				
37	CBH08_0.5-0.6	Mar 18, 2020		Soil	S20-Ma30006	X				

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Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
38	CBH08_1.9-2.0	Mar 18, 2020		Soil	S20-Ma30007	X				
39	CBH09_1.0-1.1	Mar 18, 2020		Soil	S20-Ma30008	X				
40	CBH09_1.9-2.0	Mar 18, 2020		Soil	S20-Ma30009	X				
41	CBH10_0.0-0.2	Mar 18, 2020		Soil	S20-Ma30010	X				
42	CBH10_1.9-2.0	Mar 18, 2020		Soil	S20-Ma30011	X				
43	QC1	Mar 18, 2020		Soil	S20-Ma30012	X				
44	QC3	Mar 18, 2020		Soil	S20-Ma30013	X				
Test Counts						22	20	20	20	2

Coffey Environments Pty Ltd Newcastle
16 Callistemon Close
Warabrook
NSW 2304

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Sean Blackford**

Report **708902-S**
Project name NEW MOPE DSI
Project ID NTLEN272143
Received Date Mar 19, 2020

Client Sample ID			**CBH01_0.0-0.2**	**CBH01_0.5-0.6**	**CBH02_0.0-0.2**	**CBH02_0.5-0.6**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S20-Ma29969**	**S20-Ma29970**	**S20-Ma29971**	**S20-Ma29972**
Date Sampled			**Mar 18, 2020**	**Mar 18, 2020**	**Mar 18, 2020**	**Mar 18, 2020**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	65	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	61	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	126	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	107	118	101	113
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			CBH01_0.0-0.2	CBH01_0.5-0.6	CBH02_0.0-0.2	CBH02_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29969	S20-Ma29970	S20-Ma29971	S20-Ma29972
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	88	79	73	86
p-Terphenyl-d14 (surr.)	1	%	94	99	92	101
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	0.15	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	0.21	< 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	< 0.1	< 0.1	< 0.1	< 0.1
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	0.36	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	0.36	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	106	102	105	103
Tetrachloro-m-xylene (surr.)	1	%	100	97	98	96
Organophosphorus Pesticides						
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2

Client Sample ID			CBH01_0.0-0.2	CBH01_0.5-0.6	CBH02_0.0-0.2	CBH02_0.5-0.6
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29969	S20-Ma29970	S20-Ma29971	S20-Ma29972
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Dimethoate	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 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	%	114	115	103	107
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	106	102	105	103
Tetrachloro-m-xylene (surr.)	1	%	100	97	98	96
Heavy Metals						
Arsenic	2	mg/kg	5.2	17	9.9	13
Cadmium	0.4	mg/kg	< 0.4	< 0.4	0.5	< 0.4
Chromium	5	mg/kg	12	26	22	31
Copper	5	mg/kg	12	19	41	12
Lead	5	mg/kg	14	21	20	22
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	20	7.8	25	5.4
% Moisture	1	%	22	18	19	21

Client Sample ID			CBH03_0.0-0.2	CBH03_1.0-1.1	CBH04_0.0-0.2	CBH04_1.9-2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29973	S20-Ma29974	S20-Ma29975	S20-Ma29976
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	116	113	116	118
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
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	%	85	84	84	87
p-Terphenyl-d14 (surr.)	1	%	90	88	89	94

Client Sample ID			CBH03_0.0-0.2	CBH03_1.0-1.1	CBH04_0.0-0.2	CBH04_1.9-2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29973	S20-Ma29974	S20-Ma29975	S20-Ma29976
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
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	0.22	< 0.05	0.12	< 0.05
4.4'-DDT	0.05	mg/kg	0.16	< 0.05	0.07	< 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	< 0.1	< 0.1	< 0.1	< 0.1
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.38	< 0.05	0.19	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	0.38	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	101	106	112	104
Tetrachloro-m-xylene (surr.)	1	%	95	99	99	98
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

Client Sample ID			CBH03_0.0-0.2	CBH03_1.0-1.1	CBH04_0.0-0.2	CBH04_1.9-2.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29973	S20-Ma29974	S20-Ma29975	S20-Ma29976
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
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	%	111	93	93	95
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	101	106	112	104
Tetrachloro-m-xylene (surr.)	1	%	95	99	99	98
Heavy Metals						
Arsenic	2	mg/kg	6.8	< 2	9.8	9.0
Cadmium	0.4	mg/kg	0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	19	6.6	22	13
Copper	5	mg/kg	33	< 5	17	9.4
Lead	5	mg/kg	16	17	22	22
Mercury	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Nickel	5	mg/kg	6.0	< 5	< 5	< 5
Zinc	5	mg/kg	31	< 5	15	15
% Moisture	1	%	17	14	23	7.7

Client Sample ID			CBH05_0.0-0.2	CBH05_0.5-0.6	CBH06_0.0-0.2	CBH06_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29977	S20-Ma29978	S20-Ma29979	S20-Ma29980
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			CBH05_0.0-0.2	CBH05_0.5-0.6	CBH06_0.0-0.2	CBH06_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29977	S20-Ma29978	S20-Ma29979	S20-Ma29980
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	113	121	110	84
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
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	%	84	81	84	89
p-Terphenyl-d14 (surr.)	1	%	79	88	81	92
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	0.09	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	0.06	< 0.05	0.12	< 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

Client Sample ID			CBH05_0.0-0.2	CBH05_0.5-0.6	CBH06_0.0-0.2	CBH06_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29977	S20-Ma29978	S20-Ma29979	S20-Ma29980
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
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	< 0.1	< 0.1	< 0.05	< 0.1
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	0.15	< 0.05	0.12	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	106	110	107	76
Tetrachloro-m-xylene (surr.)	1	%	97	100	95	82
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

Client Sample ID			CBH05_0.0-0.2	CBH05_0.5-0.6	CBH06_0.0-0.2	CBH06_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29977	S20-Ma29978	S20-Ma29979	S20-Ma29980
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
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	%	113	128	117	108
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	106	110	107	76
Tetrachloro-m-xylene (surr.)	1	%	97	100	95	82
Heavy Metals						
Arsenic	2	mg/kg	5.9	11	5.8	4.2
Cadmium	0.4	mg/kg	< 0.4	< 0.4	0.7	< 0.4
Chromium	5	mg/kg	15	30	15	7.8
Copper	5	mg/kg	29	5.8	39	< 5
Lead	5	mg/kg	15	19	18	9.2
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	21	6.8	40	< 5
% Moisture	1	%	22	20	27	15

Client Sample ID			CBH07_0.5-0.6	CBH07_1.0-1.1	CBH08_0.0-0.2	CBH08_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29981	S20-Ma29982	S20-Ma29983	S20-Ma29984
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50

Client Sample ID			CBH07_0.5-0.6	CBH07_1.0-1.1	CBH08_0.0-0.2	CBH08_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29981	S20-Ma29982	S20-Ma29983	S20-Ma29984
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	87	89	83	86
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	89	86	85	97
p-Terphenyl-d14 (surr.)	1	%	90	85	75	90
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	0.26	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	0.21	< 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	< 0.1	< 0.1	< 0.1	< 0.1
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

Client Sample ID			CBH07_0.5-0.6	CBH07_1.0-1.1	CBH08_0.0-0.2	CBH08_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29981	S20-Ma29982	S20-Ma29983	S20-Ma29984
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	0.47	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	0.47	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	95	118	75	59
Tetrachloro-m-xylene (surr.)	1	%	82	73	73	83
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	%	100	102	90	115

Client Sample ID			CBH07_0.5-0.6	CBH07_1.0-1.1	CBH08_0.0-0.2	CBH08_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29981	S20-Ma29982	S20-Ma29983	S20-Ma29984
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	95	118	75	59
Tetrachloro-m-xylene (surr.)	1	%	82	73	73	83
Heavy Metals						
Arsenic	2	mg/kg	5.4	3.0	2.9	4.5
Cadmium	0.4	mg/kg	< 0.4	< 0.4	0.8	< 0.4
Chromium	5	mg/kg	13	7.9	9.0	20
Copper	5	mg/kg	5.0	< 5	37	< 5
Lead	5	mg/kg	30	23	18	13
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	27	< 5
% Moisture	1	%	13	12	28	13

Client Sample ID			CBH09_0.0-0.2	CBH09_0.5-0.6	CBH10_0.5-0.6	CBH10_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29985	S20-Ma29986	S20-Ma29987	S20-Ma29988
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	< 100	< 100
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	23
TRH C15-C28	50	mg/kg	< 50	< 50	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	< 50	< 50
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			CBH09_0.0-0.2	CBH09_0.5-0.6	CBH10_0.5-0.6	CBH10_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29985	S20-Ma29986	S20-Ma29987	S20-Ma29988
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	86	113	113	124
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	89	94	87	82
p-Terphenyl-d14 (surr.)	1	%	81	83	89	78
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	0.65	< 0.05	0.05	< 0.05
4.4'-DDT	0.05	mg/kg	0.45	< 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	< 0.1	< 0.1	< 0.1	< 0.1
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	1.1	< 0.05	0.05	< 0.05

Client Sample ID			CBH09_0.0-0.2	CBH09_0.5-0.6	CBH10_0.5-0.6	CBH10_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29985	S20-Ma29986	S20-Ma29987	S20-Ma29988
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	1.1	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	64	98	71	89
Tetrachloro-m-xylene (surr.)	1	%	77	81	75	71
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	%	100	99	91	97
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			CBH09_0.0-0.2	CBH09_0.5-0.6	CBH10_0.5-0.6	CBH10_1.0-1.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S20-Ma29985	S20-Ma29986	S20-Ma29987	S20-Ma29988
Date Sampled			Mar 18, 2020	Mar 18, 2020	Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Dibutylchlorendate (surr.)	1	%	64	98	71	89
Tetrachloro-m-xylene (surr.)	1	%	77	81	75	71
Heavy Metals						
Arsenic	2	mg/kg	12	9.6	11	11
Cadmium	0.4	mg/kg	0.7	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	28	23	24	13
Copper	5	mg/kg	83	< 5	9.5	< 5
Lead	5	mg/kg	28	16	18	20
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	28	< 5	7.4	< 5
% Moisture	1	%	17	20	21	15

Client Sample ID			[R20]TS	TB
Sample Matrix			Soil	Soil
Eurofins Sample No.			S20-Ma29989	S20-Ma29990
Date Sampled			Not Provided	Not Provided
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	96	< 0.5
TRH C6-C10	20	mg/kg	100	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	100	< 20
BTEX				
Benzene	0.1	mg/kg	100	< 0.1
Toluene	0.1	mg/kg	100	< 0.1
Ethylbenzene	0.1	mg/kg	130	< 0.1
m&p-Xylenes	0.2	mg/kg	100	< 0.2
o-Xylene	0.1	mg/kg	98	< 0.1
Xylenes - Total*	0.3	mg/kg	100	< 0.3
4-Bromofluorobenzene (surr.)	1	%	147	129

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 24, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Mar 24, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Mar 24, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Mar 24, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 24, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Mar 24, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Mar 24, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Mar 24, 2020	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Mar 24, 2020	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Mar 24, 2020	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
% Moisture	Sydney	Mar 20, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			

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Company Name: Coffey Environments P/L N'castle
Address: 16 Callistemon Close
Warabrook
NSW 2304

Project Name: NEW MOPE DSI
Project ID: NTLEN272143

Order No.:
Report #: 708902
Phone: 02 4016 2300
Fax: 02 4016 2380

Received: Mar 19, 2020 2:00 PM
Due: Mar 26, 2020
Priority: 5 Day
Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						HOLD	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
External Laboratory										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**					
1	CBH01_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29969		X	X	X	
2	CBH01_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29970		X	X	X	
3	CBH02_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29971		X	X	X	
4	CBH02_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29972		X	X	X	
5	CBH03_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29973		X	X	X	
6	CBH03_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29974		X	X	X	

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Sample Detail						HOLD	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
7	CBH04_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29975		X	X	X	
8	CBH04_1.9-2.0	Mar 18, 2020		Soil	S20-Ma29976		X	X	X	
9	CBH05_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29977		X	X	X	
10	CBH05_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29978		X	X	X	
11	CBH06_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29979		X	X	X	
12	CBH06_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29980		X	X	X	
13	CBH07_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29981		X	X	X	
14	CBH07_1.0-	Mar 18, 2020		Soil	S20-Ma29982		X	X	X	

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Fax: 02 4016 2380

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Due: Mar 26, 2020
Priority: 5 Day
Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						HOLD	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
	1.1									
15	CBH08_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29983		X	X	X	
16	CBH08_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29984		X	X	X	
17	CBH09_0.0-0.2	Mar 18, 2020		Soil	S20-Ma29985		X	X	X	
18	CBH09_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29986		X	X	X	
19	CBH10_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29987		X	X	X	
20	CBH10_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29988		X	X	X	
21	TS	Not Provided		Soil	S20-Ma29989					X
22	TB	Not Provided		Soil	S20-Ma29990					X

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Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						HOLD	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
23	CBH01_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29992	X				
24	CBH01_1.9-2.0	Mar 18, 2020		Soil	S20-Ma29993	X				
25	CBH02_1.0-1.1	Mar 18, 2020		Soil	S20-Ma29994	X				
26	CBH02_1.6-1.7	Mar 18, 2020		Soil	S20-Ma29995	X				
27	CBH03_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29996	X				
28	CBH03_1.9-2.0	Mar 18, 2020		Soil	S20-Ma29997	X				
29	CBH04_0.5-0.6	Mar 18, 2020		Soil	S20-Ma29998	X				
30	CBH04_1.0-	Mar 18, 2020		Soil	S20-Ma29999	X				

eurofins | Environment Testing

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Site # 1254 & 14271

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NATA # 1261 Site # 20794

Perth
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Site # 23736

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Company Name: Coffey Environments P/L N'castle
Address: 16 Callistemon Close
Warabrook
NSW 2304

Project Name: NEW MOPE DSI
Project ID: NTLEN272143

Order No.:
Report #: 708902
Phone: 02 4016 2300
Fax: 02 4016 2380

Received: Mar 19, 2020 2:00 PM
Due: Mar 26, 2020
Priority: 5 Day
Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						HOLD	Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7	BTEXN and Volatile TRH
Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
	1.1									
31	CBH05_1.0-1.1	Mar 18, 2020		Soil	S20-Ma30000	X				
32	CBH05_1.9-2.0	Mar 18, 2020		Soil	S20-Ma30001	X				
33	CBH06_0.5-0.6	Mar 18, 2020		Soil	S20-Ma30002	X				
34	CBH06_1.5-1.6	Mar 18, 2020		Soil	S20-Ma30003	X				
35	CBH07_0.0-0.2	Mar 18, 2020		Soil	S20-Ma30004	X				
36	CBH07_1.6-1.7	Mar 18, 2020		Soil	S20-Ma30005	X				
37	CBH08_0.5-0.6	Mar 18, 2020		Soil	S20-Ma30006	X				

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Melbourne Laboratory - NATA Site # 1254 & 14271										
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
38	CBH08_1.9-2.0	Mar 18, 2020		Soil	S20-Ma30007	X				
39	CBH09_1.0-1.1	Mar 18, 2020		Soil	S20-Ma30008	X				
40	CBH09_1.9-2.0	Mar 18, 2020		Soil	S20-Ma30009	X				
41	CBH10_0.0-0.2	Mar 18, 2020		Soil	S20-Ma30010	X				
42	CBH10_1.9-2.0	Mar 18, 2020		Soil	S20-Ma30011	X				
43	QC1	Mar 18, 2020		Soil	S20-Ma30012	X				
44	QC3	Mar 18, 2020		Soil	S20-Ma30013	X				
Test Counts						22	20	20	20	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	90			70-130	Pass	
Naphthalene	%	91			70-130	Pass	
TRH C6-C10	%	84			70-130	Pass	
TRH C6-C10	%	92			70-130	Pass	
TRH >C10-C16	%	117			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	84			70-130	Pass	
TRH C10-C14	%	111			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	81			70-130	Pass	
Toluene	%	88			70-130	Pass	
Ethylbenzene	%	95			70-130	Pass	
m&p-Xylenes	%	100			70-130	Pass	
o-Xylene	%	100			70-130	Pass	
Xylenes - Total*	%	100			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	101			70-130	Pass	
Acenaphthylene	%	95			70-130	Pass	
Anthracene	%	124			70-130	Pass	
Benz(a)anthracene	%	104			70-130	Pass	
Benzo(a)pyrene	%	98			70-130	Pass	
Benzo(b&j)fluoranthene	%	112			70-130	Pass	
Benzo(g.h.i)perylene	%	121			70-130	Pass	
Benzo(k)fluoranthene	%	106			70-130	Pass	
Chrysene	%	110			70-130	Pass	
Dibenz(a.h)anthracene	%	105			70-130	Pass	
Fluoranthene	%	124			70-130	Pass	
Fluorene	%	109			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	121			70-130	Pass	
Naphthalene	%	97			70-130	Pass	
Phenanthrene	%	119			70-130	Pass	
Pyrene	%	130			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	101			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4.4'-DDD	%	114			70-130	Pass	
4.4'-DDE	%	127			70-130	Pass	
4.4'-DDT	%	125			70-130	Pass	
a-BHC	%	107			70-130	Pass	
Aldrin	%	112			70-130	Pass	
b-BHC	%	105			70-130	Pass	
d-BHC	%	112			70-130	Pass	
Dieldrin	%	117			70-130	Pass	
Endosulfan I	%	118			70-130	Pass	
Endosulfan II	%	104			70-130	Pass	
Endosulfan sulphate	%	125			70-130	Pass	
Endrin	%	130			70-130	Pass	
Endrin aldehyde	%	106			70-130	Pass	
Endrin ketone	%	118			70-130	Pass	
g-BHC (Lindane)	%	114			70-130	Pass	
Heptachlor	%	115			70-130	Pass	
Heptachlor epoxide	%	102			70-130	Pass	
Hexachlorobenzene	%	105			70-130	Pass	
Methoxychlor	%	128			70-130	Pass	
Toxaphene	%	89			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	119			70-130	Pass	
Dimethoate	%	128			70-130	Pass	
Ethion	%	123			70-130	Pass	
Fenitrothion	%	118			70-130	Pass	
Methyl parathion	%	125			70-130	Pass	
Mevinphos	%	126			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	126			70-130	Pass	
Aroclor-1260	%	106			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	90			70-130	Pass	
Cadmium	%	94			70-130	Pass	
Chromium	%	97			70-130	Pass	
Copper	%	99			70-130	Pass	
Lead	%	97			70-130	Pass	
Mercury	%	103			70-130	Pass	
Nickel	%	98			70-130	Pass	
Zinc	%	97			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-Ma29975	CP	%	95			70-130	Pass	
Cadmium	S20-Ma29975	CP	%	94			70-130	Pass	
Chromium	S20-Ma29975	CP	%	100			70-130	Pass	
Copper	S20-Ma29975	CP	%	94			70-130	Pass	
Lead	S20-Ma29975	CP	%	92			70-130	Pass	
Mercury	S20-Ma29975	CP	%	108			70-130	Pass	
Nickel	S20-Ma29975	CP	%	95			70-130	Pass	
Zinc	S20-Ma29975	CP	%	87			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Organochlorine Pesticides				Result 1					
4.4'-DDD	S20-Ma27204	NCP	%	120			70-130	Pass	
4.4'-DDT	S20-Ma27204	NCP	%	114			70-130	Pass	
Methoxychlor	S20-Ma25260	NCP	%	101			70-130	Pass	
Toxaphene	S20-Ma30019	NCP	%	120			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S20-Ma29978	CP	%	90			70-130	Pass	
TRH C6-C10	S20-Ma29978	CP	%	80			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S20-Ma29978	CP	%	79			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S20-Ma29978	CP	%	83			70-130	Pass	
Toluene	S20-Ma29978	CP	%	88			70-130	Pass	
Ethylbenzene	S20-Ma29978	CP	%	96			70-130	Pass	
m&p-Xylenes	S20-Ma29978	CP	%	102			70-130	Pass	
o-Xylene	S20-Ma29978	CP	%	102			70-130	Pass	
Xylenes - Total*	S20-Ma29978	CP	%	102			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S20-Ma29978	CP	%	108			70-130	Pass	
4.4'-DDE	S20-Ma29978	CP	%	108			70-130	Pass	
a-BHC	S20-Ma29978	CP	%	101			70-130	Pass	
Aldrin	S20-Ma29978	CP	%	107			70-130	Pass	
b-BHC	S20-Ma29978	CP	%	100			70-130	Pass	
d-BHC	S20-Ma29978	CP	%	110			70-130	Pass	
Dieldrin	S20-Ma29978	CP	%	111			70-130	Pass	
Endosulfan I	S20-Ma29978	CP	%	112			70-130	Pass	
Endosulfan II	S20-Ma29978	CP	%	112			70-130	Pass	
Endosulfan sulphate	S20-Ma29978	CP	%	102			70-130	Pass	
Endrin	S20-Ma29978	CP	%	105			70-130	Pass	
Endrin aldehyde	S20-Ma29978	CP	%	101			70-130	Pass	
Endrin ketone	S20-Ma29978	CP	%	91			70-130	Pass	
g-BHC (Lindane)	S20-Ma29978	CP	%	96			70-130	Pass	
Heptachlor	S20-Ma29978	CP	%	89			70-130	Pass	
Heptachlor epoxide	S20-Ma29978	CP	%	107			70-130	Pass	
Hexachlorobenzene	S20-Ma29978	CP	%	95			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	S20-Ma29978	CP	%	113			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S20-Ma29980	CP	%	112			70-130	Pass	
Acenaphthylene	S20-Ma29980	CP	%	104			70-130	Pass	
Anthracene	S20-Ma29980	CP	%	124			70-130	Pass	
Benz(a)anthracene	S20-Ma29980	CP	%	105			70-130	Pass	
Benzo(a)pyrene	S20-Ma29980	CP	%	115			70-130	Pass	
Benzo(b&j)fluoranthene	S20-Ma29980	CP	%	113			70-130	Pass	
Benzo(g.h.i)perylene	S20-Ma29980	CP	%	118			70-130	Pass	
Benzo(k)fluoranthene	S20-Ma29980	CP	%	105			70-130	Pass	
Chrysene	S20-Ma29980	CP	%	111			70-130	Pass	
Dibenz(a.h)anthracene	S20-Ma29980	CP	%	113			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Fluoranthene	S20-Ma29980	CP	%	120			70-130	Pass	
Fluorene	S20-Ma29980	CP	%	116			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ma29980	CP	%	128			70-130	Pass	
Naphthalene	S20-Ma29980	CP	%	115			70-130	Pass	
Phenanthrene	S20-Ma29980	CP	%	122			70-130	Pass	
Pyrene	S20-Ma29980	CP	%	120			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S20-Ma29980	CP	%	102			70-130	Pass	
Dimethoate	S20-Ma29980	CP	%	93			70-130	Pass	
Ethion	S20-Ma29980	CP	%	121			70-130	Pass	
Fenitrothion	S20-Ma29980	CP	%	112			70-130	Pass	
Methyl parathion	S20-Ma29980	CP	%	107			70-130	Pass	
Mevinphos	S20-Ma29980	CP	%	111			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S20-Ma29981	CP	%	120			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S20-Ma29981	CP	%	113			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S20-Ma29970	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S20-Ma29970	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S20-Ma29970	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S20-Ma29970	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S20-Ma29970	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S20-Ma29970	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S20-Ma29970	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S20-Ma29970	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S20-Ma29970	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
g-BHC (Lindane)	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S20-Ma29970	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S20-Ma29970	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S20-Ma29970	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S20-Ma29970	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Tokuthion	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S20-Ma29970	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-Ma29970	CP	%	18	21	15	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-Ma29974	CP	mg/kg	< 2	2.7	33	30%	Fail	Q15
Cadmium	S20-Ma29974	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ma29974	CP	mg/kg	6.6	6.8	4.0	30%	Pass	
Copper	S20-Ma29974	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	S20-Ma29974	CP	mg/kg	17	17	3.0	30%	Pass	
Mercury	S20-Ma29974	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ma29974	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S20-Ma29974	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S20-Ma29977	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S20-Ma29977	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-Ma29977	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-Ma29977	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S20-Ma29977	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S20-Ma29977	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S20-Ma29977	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S20-Ma29977	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S20-Ma29977	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S20-Ma29977	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S20-Ma29977	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S20-Ma29977	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S20-Ma29977	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S20-Ma29977	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S20-Ma29977	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S20-Ma29977	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S20-Ma29979	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S20-Ma29979	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	S20-Ma29979	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S20-Ma29979	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S20-Ma29979	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	S20-Ma29979	CP	mg/kg	< 50	< 50	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S20-Ma29979	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S20-Ma29979	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Monocrotophos	S20-Ma29979	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S20-Ma29979	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S20-Ma29979	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-Ma29980	CP	%	15	14	7.0	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-Ma29984	CP	mg/kg	4.5	4.7	3.0	30%	Pass	
Cadmium	S20-Ma29984	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ma29984	CP	mg/kg	20	17	14	30%	Pass	
Copper	S20-Ma29984	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	S20-Ma29984	CP	mg/kg	13	13	1.0	30%	Pass	
Mercury	S20-Ma29984	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ma29984	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S20-Ma29984	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S20-Ma29987	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S20-Ma29987	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-Ma29987	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-Ma29987	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S20-Ma29987	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S20-Ma29987	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S20-Ma29987	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S20-Ma29987	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S20-Ma29987	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.
R20	This sample is a Trip Spike and therefore all results are reported as a percentage

Authorised By

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)

Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

#AU04_Enviro_Sample_NSW

To: Asim Khan
Subject: RE: 5 day TAT Additional analysis FW: Eurofins Test Results - Report 708902 : Site NEW MOPE

From: Blackford, Sean [mailto:Sean.Blackford@coffey.com]
Sent: Friday, 27 March 2020 12:16 PM
To: Asim Khan <AsimKhan@eurofins.com>
Subject: RE: Eurofins Test Results - Report 708902 : Site NEW MOPE DSI (NTLEN272143)

EXTERNAL EMAIL*

Hey Asim,

Can I please request additional analysis for soil report (708902)?
Can I request samples **QC1 & QC3** be analysed for **Suite B15 & Suite B7**?
Requested on a standard TAT.

Please respond once this request has been actioned.

Kind Regards,

Sean Blackford
Environmental Consultant

16 Callistemon Close
Warabrook NSW, 2304

t: +61 2 4028 9700
m: +418 549 796

From: AsimKhan@eurofins.com <AsimKhan@eurofins.com>
Sent: Thursday, 26 March, 2020 6:30 PM
To: Blackford, Sean <Sean.Blackford@coffey.com>
Subject: Eurofins Test Results - Report 708902 : Site NEW MOPE DSI (NTLEN272143)

Please find attached results for your project in the subject header.

Please note: My office hours are 12 pm to 8 pm.

Kind regards,

Asim Khan
Analytical Services Manager

Eurofins | Environment Testing
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone : +61 2 9900 8432
Phone : +61 429 051 456
Email : AsimKhan@eurofins.com
Website : www.eurofins.com.au/environmental-testing

EnviroNote 1079 - PFAS Fingerprinting
EnviroNote 1080 - Total Organofluorine Analysis & PFAS Investigations

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
Kewdale WA 6105
Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Coffey Environments P/L N'castle**
Contact name:	Sean Blackford
Project name:	ADDITIONAL - NEW MOPE DSI
Project ID:	NTLEN272143
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Mar 27, 2020 12:16 PM
Eurofins reference:	**710464**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 12.4 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.

☑ Appropriate sample containers have been used.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Andrew Black on Phone : (+61) 2 9900 8490 or by e.mail: AndrewBlack@eurofins.com

Results will be delivered electronically via e.mail to Sean Blackford - sean.blackford@coffey.com.

Note: A copy of these results will also be delivered to the general Coffey Environments P/L N'castle email address.

eurofins | Environment Testing

ABN – 50 005 085 521 web : www.eurofins.com.au e.mail : EnviroSales@eurofins.com

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IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Coffey Environments P/L N'castle
Address: 16 Callistemon Close
Warabrook
NSW 2304

Project Name: ADDITIONAL - NEW MOPE DSI
Project ID: NTLEN272143

Order No.:
Report #: 710464
Phone: 02 4016 2300
Fax: 02 4016 2380

Received: Mar 27, 2020 12:16 PM
Due: Apr 3, 2020
Priority: 5 Day
Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	QC1	Mar 18, 2020		Soil	S20-Ma42718	X	X	X
2	QC3	Mar 18, 2020		Soil	S20-Ma42719	X	X	X
Test Counts						2	2	2

Coffey Environments Pty Ltd Newcastle
16 Callistemon Close
Warabrook
NSW 2304

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Sean Blackford**

Report **710464-S**
Project name ADDITIONAL - NEW MOPE DSI
Project ID NTLEN272143
Received Date Mar 27, 2020

Client Sample ID			**QC1**	**QC3**
Sample Matrix			**Soil**	**Soil**
Eurofins Sample No.			**S20-Ma42718**	**S20-Ma42719**
Date Sampled			**Mar 18, 2020**	**Mar 18, 2020**
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	20	mg/kg	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50
TRH C29-C36	50	mg/kg	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50
BTEX				
Benzene	0.1	mg/kg	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	69	69
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100
Polycyclic Aromatic Hydrocarbons				
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Chrysene	0.5	mg/kg	< 0.5	< 0.5

Client Sample ID			QC1	QC3
Sample Matrix			Soil	Soil
Eurofins Sample No.			S20-Ma42718	S20-Ma42719
Date Sampled			Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit		
Polycyclic Aromatic Hydrocarbons				
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5	< 0.5
Fluorene	0.5	mg/kg	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5
Pyrene	0.5	mg/kg	< 0.5	< 0.5
Total PAH*	0.5	mg/kg	< 0.5	< 0.5
2-Fluorobiphenyl (surr.)	1	%	100	99
p-Terphenyl-d14 (surr.)	1	%	117	106
Organochlorine Pesticides				
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.1
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.2
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2
Toxaphene	1	mg/kg	< 1	< 1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.2
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	INT	INT
Tetrachloro-m-xylene (surr.)	1	%	103	98
Organophosphorus Pesticides				
Azinphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Bolstar	0.2	mg/kg	< 0.2	< 0.2
Chlorfenvinphos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos	0.2	mg/kg	< 0.2	< 0.2
Chlorpyrifos-methyl	0.2	mg/kg	< 0.2	< 0.2
Coumaphos	2	mg/kg	< 2	< 2
Demeton-S	0.2	mg/kg	< 0.2	< 0.2
Demeton-O	0.2	mg/kg	< 0.2	< 0.2
Diazinon	0.2	mg/kg	< 0.2	< 0.2
Dichlorvos	0.2	mg/kg	< 0.2	< 0.2

Client Sample ID			QC1	QC3
Sample Matrix			Soil	Soil
Eurofins Sample No.			S20-Ma42718	S20-Ma42719
Date Sampled			Mar 18, 2020	Mar 18, 2020
Test/Reference	LOR	Unit		
Organophosphorus Pesticides				
Dimethoate	0.2	mg/kg	< 0.2	< 0.2
Disulfoton	0.2	mg/kg	< 0.2	< 0.2
EPN	0.2	mg/kg	< 0.2	< 0.2
Ethion	0.2	mg/kg	< 0.2	< 0.2
Ethoprop	0.2	mg/kg	< 0.2	< 0.2
Ethyl parathion	0.2	mg/kg	< 0.2	< 0.2
Fenitrothion	0.2	mg/kg	< 0.2	< 0.2
Fensulfothion	0.2	mg/kg	< 0.2	< 0.2
Fenthion	0.2	mg/kg	< 0.2	< 0.2
Malathion	0.2	mg/kg	< 0.2	< 0.2
Merphos	0.2	mg/kg	< 0.2	< 0.2
Methyl parathion	0.2	mg/kg	< 0.2	< 0.2
Mevinphos	0.2	mg/kg	< 0.2	< 0.2
Monocrotophos	2	mg/kg	< 2	< 2
Naled	0.2	mg/kg	< 0.2	< 0.2
Omethoate	2	mg/kg	< 2	< 2
Phorate	0.2	mg/kg	< 0.2	< 0.2
Pirimiphos-methyl	0.2	mg/kg	< 0.2	< 0.2
Pyrazophos	0.2	mg/kg	< 0.2	< 0.2
Ronnel	0.2	mg/kg	< 0.2	< 0.2
Terbufos	0.2	mg/kg	< 0.2	< 0.2
Tetrachlorvinphos	0.2	mg/kg	< 0.2	< 0.2
Tokuthion	0.2	mg/kg	< 0.2	< 0.2
Trichloronate	0.2	mg/kg	< 0.2	< 0.2
Triphenylphosphate (surr.)	1	%	113	97
Polychlorinated Biphenyls				
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	INT	INT
Tetrachloro-m-xylene (surr.)	1	%	103	98
Heavy Metals				
Arsenic	2	mg/kg	12	8.3
Cadmium	0.4	mg/kg	< 0.4	0.6
Chromium	5	mg/kg	29	19
Copper	5	mg/kg	8.2	35
Lead	5	mg/kg	22	22
Mercury	0.1	mg/kg	< 0.1	< 0.1
Nickel	5	mg/kg	< 5	< 5
Zinc	5	mg/kg	7.3	23
% Moisture	1	%	21	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.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Apr 02, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 02, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 02, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 02, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 02, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Apr 02, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Apr 02, 2020	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Apr 02, 2020	14 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Apr 02, 2020	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
% Moisture	Sydney	Mar 27, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			

eurofins | Environment Testing

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Coffey Environments P/L N'castle	**Order No.:**	
Address:	16 Callistemon Close Warabrook NSW 2304	**Report #:** **Phone:** **Fax:**	710464 02 4016 2300 02 4016 2380
Project Name:	ADDITIONAL - NEW MOPE DSI		
Project ID:	NTLEN272143		

Received:	Mar 27, 2020 12:16 PM		
Due:	Apr 3, 2020		
Priority:	5 Day		
Contact Name:	Sean Blackford		

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Eurofins | mgt Suite B15	Moisture Set	Eurofins | mgt Suite B7
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	QC1	Mar 18, 2020		Soil	S20-Ma42718	X	X	X
2	QC3	Mar 18, 2020		Soil	S20-Ma42719	X	X	X
Test Counts						2	2	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.2			0.2	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Organophosphorus Pesticides							
Azinphos-methyl	mg/kg	< 0.2			0.2	Pass	
Bolstar	mg/kg	< 0.2			0.2	Pass	
Chlorfenvinphos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos	mg/kg	< 0.2			0.2	Pass	
Chlorpyrifos-methyl	mg/kg	< 0.2			0.2	Pass	
Coumaphos	mg/kg	< 2			2	Pass	
Demeton-S	mg/kg	< 0.2			0.2	Pass	
Demeton-O	mg/kg	< 0.2			0.2	Pass	
Diazinon	mg/kg	< 0.2			0.2	Pass	
Dichlorvos	mg/kg	< 0.2			0.2	Pass	
Dimethoate	mg/kg	< 0.2			0.2	Pass	
Disulfoton	mg/kg	< 0.2			0.2	Pass	
EPN	mg/kg	< 0.2			0.2	Pass	
Ethion	mg/kg	< 0.2			0.2	Pass	
Ethoprop	mg/kg	< 0.2			0.2	Pass	
Ethyl parathion	mg/kg	< 0.2			0.2	Pass	
Fenitrothion	mg/kg	< 0.2			0.2	Pass	
Fensulfothion	mg/kg	< 0.2			0.2	Pass	
Fenthion	mg/kg	< 0.2			0.2	Pass	
Malathion	mg/kg	< 0.2			0.2	Pass	
Merphos	mg/kg	< 0.2			0.2	Pass	
Methyl parathion	mg/kg	< 0.2			0.2	Pass	
Mevinphos	mg/kg	< 0.2			0.2	Pass	
Monocrotophos	mg/kg	< 2			2	Pass	
Naled	mg/kg	< 0.2			0.2	Pass	
Omethoate	mg/kg	< 2			2	Pass	
Phorate	mg/kg	< 0.2			0.2	Pass	
Pirimiphos-methyl	mg/kg	< 0.2			0.2	Pass	
Pyrazophos	mg/kg	< 0.2			0.2	Pass	
Ronnel	mg/kg	< 0.2			0.2	Pass	
Terbufos	mg/kg	< 0.2			0.2	Pass	
Tetrachlorvinphos	mg/kg	< 0.2			0.2	Pass	
Tokuthion	mg/kg	< 0.2			0.2	Pass	
Trichloronate	mg/kg	< 0.2			0.2	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/kg	< 2			2	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Nickel	mg/kg	< 5			5	Pass	
Zinc	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	121			70-130	Pass	
TRH C10-C14	%	78			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	115			70-130	Pass	
Toluene	%	75			70-130	Pass	
Ethylbenzene	%	97			70-130	Pass	
m&p-Xylenes	%	86			70-130	Pass	
o-Xylene	%	80			70-130	Pass	
Xylenes - Total*	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	91			70-130	Pass	
TRH C6-C10	%	123			70-130	Pass	
TRH >C10-C16	%	81			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	99			70-130	Pass	
Acenaphthylene	%	107			70-130	Pass	
Anthracene	%	107			70-130	Pass	
Benz(a)anthracene	%	94			70-130	Pass	
Benzo(a)pyrene	%	91			70-130	Pass	
Benzo(b&j)fluoranthene	%	101			70-130	Pass	
Benzo(g.h.i)perylene	%	83			70-130	Pass	
Benzo(k)fluoranthene	%	99			70-130	Pass	
Chrysene	%	98			70-130	Pass	
Dibenz(a.h)anthracene	%	92			70-130	Pass	
Fluoranthene	%	114			70-130	Pass	
Fluorene	%	112			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	107			70-130	Pass	
Naphthalene	%	109			70-130	Pass	
Phenanthrene	%	109			70-130	Pass	
Pyrene	%	112			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	91			70-130	Pass	
4.4'-DDD	%	113			70-130	Pass	
4.4'-DDE	%	124			70-130	Pass	
4.4'-DDT	%	130			70-130	Pass	
a-BHC	%	105			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aldrin	%	101			70-130	Pass	
b-BHC	%	102			70-130	Pass	
d-BHC	%	108			70-130	Pass	
Dieldrin	%	116			70-130	Pass	
Endosulfan I	%	93			70-130	Pass	
Endosulfan II	%	107			70-130	Pass	
Endosulfan sulphate	%	130			70-130	Pass	
Endrin	%	106			70-130	Pass	
Endrin aldehyde	%	78			70-130	Pass	
Endrin ketone	%	94			70-130	Pass	
g-BHC (Lindane)	%	95			70-130	Pass	
Heptachlor	%	112			70-130	Pass	
Heptachlor epoxide	%	110			70-130	Pass	
Hexachlorobenzene	%	103			70-130	Pass	
Methoxychlor	%	107			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	98			70-130	Pass	
Dimethoate	%	111			70-130	Pass	
Ethion	%	107			70-130	Pass	
Fenitrothion	%	100			70-130	Pass	
Methyl parathion	%	109			70-130	Pass	
Mevinphos	%	110			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	117			70-130	Pass	
Aroclor-1260	%	87			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	89			70-130	Pass	
Cadmium	%	95			70-130	Pass	
Chromium	%	95			70-130	Pass	
Copper	%	94			70-130	Pass	
Lead	%	98			70-130	Pass	
Mercury	%	100			70-130	Pass	
Nickel	%	98			70-130	Pass	
Zinc	%	95			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S20-Ma40364	NCP	%	115			70-130	Pass	
TRH C10-C14	S20-Ap02564	NCP	%	85			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S20-Ma40364	NCP	%	130			70-130	Pass	
Toluene	S20-Ma40364	NCP	%	126			70-130	Pass	
Ethylbenzene	S20-Ma40364	NCP	%	128			70-130	Pass	
m&p-Xylenes	S20-Ma40364	NCP	%	128			70-130	Pass	
o-Xylene	S20-Ma40364	NCP	%	128			70-130	Pass	
Xylenes - Total*	S20-Ma40364	NCP	%	128			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S20-Ma40364	NCP	%	124			70-130	Pass	
TRH C6-C10	S20-Ma40364	NCP	%	118			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
TRH >C10-C16	S20-Ap02564	NCP	%	100			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S20-Ma40115	NCP	%	112			70-130	Pass	
Acenaphthylene	S20-Ma40115	NCP	%	113			70-130	Pass	
Anthracene	S20-Ma40115	NCP	%	113			70-130	Pass	
Benz(a)anthracene	S20-Ma40115	NCP	%	114			70-130	Pass	
Benzo(a)pyrene	S20-Ma40115	NCP	%	115			70-130	Pass	
Benzo(b&j)fluoranthene	S20-Ma47896	NCP	%	89			70-130	Pass	
Benzo(g.h.i)perylene	S20-Ma40115	NCP	%	113			70-130	Pass	
Benzo(k)fluoranthene	S20-Ma40115	NCP	%	114			70-130	Pass	
Chrysene	S20-Ma40115	NCP	%	114			70-130	Pass	
Dibenz(a.h)anthracene	S20-Ma40115	NCP	%	110			70-130	Pass	
Fluoranthene	S20-Ma40115	NCP	%	120			70-130	Pass	
Fluorene	S20-Ma40115	NCP	%	117			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ma40115	NCP	%	116			70-130	Pass	
Naphthalene	S20-Ma40115	NCP	%	120			70-130	Pass	
Phenanthrene	S20-Ma40115	NCP	%	113			70-130	Pass	
Pyrene	S20-Ma40115	NCP	%	117			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S20-Ma40115	NCP	%	120			70-130	Pass	
4.4'-DDD	S20-Ma40084	NCP	%	125			70-130	Pass	
4.4'-DDE	S20-Ma40115	NCP	%	121			70-130	Pass	
a-BHC	S20-Ma40115	NCP	%	106			70-130	Pass	
Aldrin	S20-Ma40115	NCP	%	107			70-130	Pass	
b-BHC	S20-Ma40115	NCP	%	110			70-130	Pass	
d-BHC	S20-Ma40115	NCP	%	124			70-130	Pass	
Dieldrin	S20-Ma40115	NCP	%	106			70-130	Pass	
Endosulfan I	S20-Ma40115	NCP	%	106			70-130	Pass	
Endosulfan II	S20-Ma40115	NCP	%	120			70-130	Pass	
Endosulfan sulphate	S20-Ma40115	NCP	%	115			70-130	Pass	
Endrin	S20-Ma40115	NCP	%	120			70-130	Pass	
Endrin aldehyde	S20-Ma47896	NCP	%	96			70-130	Pass	
Endrin ketone	S20-Ma40115	NCP	%	101			70-130	Pass	
g-BHC (Lindane)	S20-Ma40115	NCP	%	96			70-130	Pass	
Heptachlor	S20-Ma40115	NCP	%	103			70-130	Pass	
Heptachlor epoxide	S20-Ma38742	NCP	%	98			70-130	Pass	
Hexachlorobenzene	S20-Ma40115	NCP	%	110			70-130	Pass	
Methoxychlor	S20-Ma40084	NCP	%	72			70-130	Pass	
Spike - % Recovery									
Organophosphorus Pesticides				Result 1					
Diazinon	S20-Ma33513	NCP	%	87			70-130	Pass	
Dimethoate	S20-Ma33513	NCP	%	108			70-130	Pass	
Ethion	S20-Ma33513	NCP	%	95			70-130	Pass	
Fenitrothion	S20-Ma33513	NCP	%	120			70-130	Pass	
Methyl parathion	S20-Ma33513	NCP	%	112			70-130	Pass	
Mevinphos	S20-Ma33513	NCP	%	97			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S20-Ma40115	NCP	%	124			70-130	Pass	
Aroclor-1260	S20-Ma40115	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Arsenic	S20-Ma44054	NCP	%	82			70-130	Pass	
Cadmium	S20-Ma44054	NCP	%	92			70-130	Pass	
Chromium	S20-Ma44054	NCP	%	91			70-130	Pass	
Copper	S20-Ma44054	NCP	%	87			70-130	Pass	
Lead	S20-Ma44054	NCP	%	90			70-130	Pass	
Mercury	S20-Ma44054	NCP	%	97			70-130	Pass	
Nickel	S20-Ma44054	NCP	%	93			70-130	Pass	
Zinc	S20-Ma44054	NCP	%	85			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-Ma44178	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S20-Ma45311	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S20-Ma45311	NCP	mg/kg	< 50	51	21	30%	Pass	
TRH C29-C36	S20-Ma45311	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-Ma44178	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S20-Ma44178	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S20-Ma44178	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S20-Ma44178	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S20-Ma44178	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S20-Ma44178	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S20-Ma44178	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S20-Ma44178	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S20-Ma45311	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S20-Ma45311	NCP	mg/kg	< 100		17	30%	Pass	
TRH >C34-C40	S20-Ma45311	NCP	mg/kg	< 100		9.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-Ma43947	NCP	mg/kg	2.1	< 2	26	30%	Pass	
Cadmium	S20-Ma43947	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S20-Ma43947	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	S20-Ma43947	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	S20-Ma43947	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Mercury	S20-Ma43947	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S20-Ma43947	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Zinc	S20-Ma43947	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-Ma42399	NCP	%	30	28	6.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Dibenz(a.h)anthracene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluorene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S20-Ma42719	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S20-Ma42719	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDE	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
4.4'-DDT	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S20-Ma42719	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Azinphos-methyl	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Bolstar	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorfenvinphos	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Chlorpyrifos-methyl	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Coumaphos	S20-Ma42719	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Demeton-S	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Demeton-O	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Diazinon	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dichlorvos	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Dimethoate	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Disulfoton	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
EPN	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethion	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethoprop	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ethyl parathion	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenitrothion	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fensulfothion	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Fenthion	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Malathion	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Merphos	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Methyl parathion	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Mevinphos	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Duplicate									
Organophosphorus Pesticides				Result 1	Result 2	RPD			
Monocrotophos	S20-Ma42719	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Naled	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Omethoate	S20-Ma42719	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Phorate	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pirimiphos-methyl	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Pyrazophos	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Ronnel	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Terbufos	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tetrachlorvinphos	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Tokuthion	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Trichloronate	S20-Ma42719	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S20-Ma42719	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Total PCB*	S20-Ma42719	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
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

Authorised By

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)

Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

 5917

coffey

Consigning Office: WARRABROOK

Report Results to: SEAN BLACKFORD Mobile: 0418 549 796 Email: sean.blackford@coffey.com

Invoices to: GEN ADMIN Phone: Email: @coffey.com

Project No: NTLEN272413 Task No: LAB

Project Name: Laboratory: MCT

Sampler's Name: S.BLACKFORD Project Manager: S. BLACK FORD

Special Instructions: Std T.A.T

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	SUITE B7	SUITE B15	SUITE B1
	MW01	30/3	PM	WATER	G, Vx2, Px2	Std	X	X	
	MW02						X	X	
	MW03						X	X	
	QC1						X	X	
	QC2						X	X	
	TB				Vx2		X	X	
	TS							X	

NOTES

SEND (QC2) TO ALS - (4-7)

CHANGE * PLEASE NAME SAMPLES MW001 TO MW01 PLEASE.

(WRITTEN AS MW001 ON CONTAINERS)

RELINQUISHED BY

Name: SEAN.BLACKFORD Date: 31/3/20

Coffey Environments Time:

Name: Date:

Company: Time:

RECEIVED BY

Name: K.FOLEY Date: 31/3/20

Company: EUROFINS NTL. Time: 3pm. 11.2°C

Name: Date:

Company: Time:

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☑

All Documentation is in Proper Order ☑

Samples Received Properly Chilled 11.2°C ☑

Lab. Ref/Batch No. # 711311

***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock Bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative, **OP** - Other Preservative

eurofins | Environment Testing

Melbourne
6 Monterey Road
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NATA # 1261
Site # 1254 & 14271

Sydney
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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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 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Coffey Environments P/L N'castle**
Contact name:	Sean Blackford
Project name:	NTLEN272413
COC number:	Not provided
Turn around time:	5 Day
Date/Time received:	Mar 31, 2020 3:00 PM
Eurofins reference:	**711311**

Sample information

- ☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ☑ Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 11.4 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.
- ☑ Appropriate sample containers have been used.
- ☑ Sample containers for volatile analysis received with zero headspace.
- ☑ Split sample sent to requested external lab.
- ☒ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Sample QC2 forwarded to ALS

Contact notes

If you have any questions with respect to these samples please contact:

Andrew Black on Phone : (+61) 2 9900 8490 or by e.mail: AndrewBlack@eurofins.com

Results will be delivered electronically via e.mail to Sean Blackford - sean.blackford@coffey.com.

Note: A copy of these results will also be delivered to the general Coffey Environments P/L N'castle email address.

eurofins | Environment Testing

ABN – 50 005 085 521 web : www.eurofins.com.au e.mail : EnviroSales@eurofins.com

Australia

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35 O'Rorke Road
Penrose, Auckland 1061
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IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Coffey Environments P/L N'castle
Address: 16 Callistemon Close
Warabrook
NSW 2304

Project Name: NTLEN272413

Order No.:
Report #: 711311
Phone: 02 4016 2300
Fax: 02 4016 2380

Received: Mar 31, 2020 3:00 PM
Due: Apr 7, 2020
Priority: 5 Day
Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Eurofins | mgt Suite B15	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	MW01	Mar 30, 2020		Water	S20-Ap00837	X	X	
2	MW02	Mar 30, 2020		Water	S20-Ap00838	X	X	
3	MW03	Mar 30, 2020		Water	S20-Ap00839	X	X	
4	QC1	Mar 30, 2020		Water	S20-Ap00840	X	X	
5	TB	Mar 30, 2020		Water	S20-Ap00841			X
6	TS	Mar 30, 2020		Water	S20-Ap00842			X
Test Counts						4	4	2

Coffey Environments Pty Ltd Newcastle
16 Callistemon Close
Warabrook
NSW 2304

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025 – Testing
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Sean Blackford**

Report **711311-W**
Project name NTLEN272413
Received Date Mar 31, 2020

Client Sample ID			**MW01**	**MW02**	**MW03**	**QC1**
Sample Matrix			**Water**	**Water**	**Water**	**Water**
Eurofins Sample No.			**S20-Ap00837**	**S20-Ap00838**	**S20-Ap00839**	**S20-Ap00840**
Date Sampled			**Mar 30, 2020**	**Mar 30, 2020**	**Mar 30, 2020**	**Mar 30, 2020**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
TRH C6-C10	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	< 0.1	0.3	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	< 0.1	0.2	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	< 0.1	0.5	< 0.1	< 0.1
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	0.2	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	< 0.1	0.2	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	124	122	101	123
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			MW01	MW02	MW03	QC1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S20-Ap00837	S20-Ap00838	S20-Ap00839	S20-Ap00840
Date Sampled			Mar 30, 2020	Mar 30, 2020	Mar 30, 2020	Mar 30, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	67	73	76	86
p-Terphenyl-d14 (surr.)	1	%	86	91	93	91
Organochlorine Pesticides						
Chlordanes - Total	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4.4'-DDD	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDE	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
4.4'-DDT	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
a-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Aldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
b-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
d-BHC	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Dieldrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan I	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan II	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endosulfan sulphate	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin aldehyde	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Endrin ketone	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Heptachlor epoxide	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Hexachlorobenzene	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Methoxychlor	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Toxaphene	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Vic EPA IWRG 621 OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Vic EPA IWRG 621 Other OCP (Total)*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibutylchlorendate (surr.)	1	%	80	82	80	84
Tetrachloro-m-xylene (surr.)	1	%	74	77	85	88
Organophosphorus Pesticides						
Azinphos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Bolstar	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorfenvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Chlorpyrifos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Chlorpyrifos-methyl	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Coumaphos	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-S	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Demeton-O	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Diazinon	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dichlorvos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Dimethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Disulfoton	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
EPN	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002

Client Sample ID			MW01	MW02	MW03	QC1
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S20-Ap00837	S20-Ap00838	S20-Ap00839	S20-Ap00840
Date Sampled			Mar 30, 2020	Mar 30, 2020	Mar 30, 2020	Mar 30, 2020
Test/Reference	LOR	Unit				
Organophosphorus Pesticides						
Ethoprop	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ethyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenitrothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fensulfothion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Fenthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Malathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Merphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methyl parathion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Mevinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Monocrotophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Naled	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Omethoate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Phorate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Pirimiphos-methyl	0.02	mg/L	< 0.02	< 0.02	< 0.02	< 0.02
Pyrazophos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Ronnel	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Terbufos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tetrachlorvinphos	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Tokuthion	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Trichloronate	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Triphenylphosphate (surr.)	1	%	96	102	113	112
Polychlorinated Biphenyls						
Aroclor-1016	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1221	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Aroclor-1232	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1242	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1248	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1254	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aroclor-1260	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Total PCB*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibutylchlorendate (surr.)	1	%	80	82	80	84
Tetrachloro-m-xylene (surr.)	1	%	74	77	85	88
Heavy Metals						
Arsenic	0.001	mg/L	0.044	0.047	0.006	0.065
Cadmium	0.0002	mg/L	0.0012	0.0003	< 0.0002	0.0015
Chromium	0.001	mg/L	0.083	0.31	0.021	0.14
Copper	0.001	mg/L	0.14	0.26	0.009	0.17
Lead	0.001	mg/L	0.16	0.25	0.018	0.24
Mercury	0.0001	mg/L	0.0003	0.0014	< 0.0001	0.0006
Nickel	0.001	mg/L	0.099	0.044	0.008	0.13
Zinc	0.005	mg/L	0.56	0.40	0.042	0.79

Client Sample ID			TB	TS
Sample Matrix			Water	Water
Eurofins Sample No.			S20-Ap00841	S20-Ap00842
Date Sampled			Mar 30, 2020	Mar 30, 2020
Test/Reference	LOR	Unit		
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				
Naphthalene[N02]	0.01	mg/L	< 0.01	110
TRH C6-C10	0.02	mg/L	< 0.02	73
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	< 0.02	-
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				
TRH C6-C9	0.02	mg/L	< 0.02	72
BTEX				
Benzene	0.001	mg/L	< 0.001	100
Toluene	0.001	mg/L	< 0.001	100
Ethylbenzene	0.001	mg/L	< 0.001	100
m&p-Xylenes	0.002	mg/L	< 0.002	110
o-Xylene	0.001	mg/L	< 0.001	110
Xylenes - Total*	0.003	mg/L	< 0.003	110
4-Bromofluorobenzene (surr.)	1	%	128	116

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 01, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Apr 01, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Apr 01, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Apr 01, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Apr 01, 2020	
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Apr 01, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Apr 07, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Apr 01, 2020	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Organophosphorus Pesticides	Sydney	Apr 01, 2020	7 Days
- Method: LTM-ORG-2200 Organophosphorus Pesticides by GC-MS			
Polychlorinated Biphenyls	Sydney	Apr 01, 2020	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			

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IANZ # 1290

Company Name: Coffey Environments P/L N'castle
Address: 16 Callistemon Close
Warabrook
NSW 2304

Project Name: NTLEN272413

Order No.:
Report #: 711311
Phone: 02 4016 2300
Fax: 02 4016 2380

Received: Mar 31, 2020 3:00 PM
Due: Apr 7, 2020
Priority: 5 Day
Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Eurofins | mgt Suite B15	Eurofins | mgt Suite B7	Eurofins | mgt Suite B1
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	MW01	Mar 30, 2020		Water	S20-Ap00837	X	X	
2	MW02	Mar 30, 2020		Water	S20-Ap00838	X	X	
3	MW03	Mar 30, 2020		Water	S20-Ap00839	X	X	
4	QC1	Mar 30, 2020		Water	S20-Ap00840	X	X	
5	TB	Mar 30, 2020		Water	S20-Ap00841			X
6	TS	Mar 30, 2020		Water	S20-Ap00842			X
Test Counts						4	4	2

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
TRH C6-C10	mg/L	< 0.02			0.02	Pass	
TRH >C10-C16	mg/L	< 0.05			0.05	Pass	
TRH >C16-C34	mg/L	< 0.1			0.1	Pass	
TRH >C34-C40	mg/L	< 0.1			0.1	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/L	< 0.02			0.02	Pass	
TRH C10-C14	mg/L	< 0.05			0.05	Pass	
TRH C15-C28	mg/L	< 0.1			0.1	Pass	
TRH C29-C36	mg/L	< 0.1			0.1	Pass	
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
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							
Polychlorinated Biphenyls							
Aroclor-1016	mg/L	< 0.005			0.005	Pass	
Aroclor-1221	mg/L	< 0.001			0.001	Pass	
Aroclor-1232	mg/L	< 0.005			0.005	Pass	
Aroclor-1242	mg/L	< 0.005			0.005	Pass	
Aroclor-1248	mg/L	< 0.005			0.005	Pass	
Aroclor-1254	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1260	mg/L	< 0.005			0.005	Pass	
Total PCB*	mg/L	< 0.001			0.001	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	101			70-130	Pass	
TRH C6-C10	%	115			70-130	Pass	
TRH >C10-C16	%	121			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	116			70-130	Pass	
TRH C10-C14	%	128			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	91			70-130	Pass	
Toluene	%	87			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	124			70-130	Pass	
o-Xylene	%	118			70-130	Pass	
Xylenes - Total*	%	122			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	78			70-130	Pass	
Anthracene	%	82			70-130	Pass	
Benz(a)anthracene	%	102			70-130	Pass	
Benzo(a)pyrene	%	110			70-130	Pass	
Benzo(b&j)fluoranthene	%	108			70-130	Pass	
Benzo(g.h.i)perylene	%	103			70-130	Pass	
Benzo(k)fluoranthene	%	109			70-130	Pass	
Chrysene	%	114			70-130	Pass	
Dibenz(a.h)anthracene	%	89			70-130	Pass	
Fluoranthene	%	87			70-130	Pass	
Fluorene	%	95			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	87			70-130	Pass	
Phenanthrene	%	88			70-130	Pass	
Pyrene	%	95			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	75			70-130	Pass	
4.4'-DDD	%	105			70-130	Pass	
4.4'-DDE	%	78			70-130	Pass	
4.4'-DDT	%	78			70-130	Pass	
b-BHC	%	116			70-130	Pass	
d-BHC	%	91			70-130	Pass	
Dieldrin	%	83			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endosulfan I	%	78			70-130	Pass	
Endosulfan II	%	74			70-130	Pass	
Endosulfan sulphate	%	72			70-130	Pass	
Endrin	%	84			70-130	Pass	
Endrin ketone	%	72			70-130	Pass	
Heptachlor	%	82			70-130	Pass	
Heptachlor epoxide	%	94			70-130	Pass	
Methoxychlor	%	87			70-130	Pass	
LCS - % Recovery							
Organophosphorus Pesticides							
Diazinon	%	100			70-130	Pass	
Dimethoate	%	90			70-130	Pass	
Ethion	%	77			70-130	Pass	
Methyl parathion	%	70			70-130	Pass	
Mevinphos	%	113			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	81			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	98			70-130	Pass	
Cadmium	%	93			70-130	Pass	
Chromium	%	91			70-130	Pass	
Copper	%	88			70-130	Pass	
Lead	%	96			70-130	Pass	
Mercury	%	108			70-130	Pass	
Nickel	%	90			70-130	Pass	
Zinc	%	92			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-Ma48821	NCP	%	107			70-130	Pass	
Cadmium	S20-Ma48821	NCP	%	105			70-130	Pass	
Chromium	S20-Ma48821	NCP	%	102			70-130	Pass	
Copper	S20-Ma48821	NCP	%	99			70-130	Pass	
Lead	S20-Ma48821	NCP	%	103			70-130	Pass	
Mercury	S20-Ma48821	NCP	%	114			70-130	Pass	
Nickel	S20-Ma48821	NCP	%	101			70-130	Pass	
Zinc	S20-Ma48821	NCP	%	100			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S20-Ap07825	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
TRH C6-C10	S20-Ap07825	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-Ap07825	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-Ap07825	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	S20-Ap07825	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	S20-Ap07825	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	S20-Ap07825	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	

Duplicate									
BTEX				Result 1	Result 2	RPD			
o-Xylene	S20-Ap07825	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total*	S20-Ap07825	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-Ap00837	CP	mg/L	0.044	0.049	12	30%	Pass	
Cadmium	S20-Ap00837	CP	mg/L	0.0012	0.0013	8.0	30%	Pass	
Chromium	S20-Ap00837	CP	mg/L	0.083	0.093	10	30%	Pass	
Copper	S20-Ap00837	CP	mg/L	0.14	0.15	12	30%	Pass	
Lead	S20-Ap00837	CP	mg/L	0.16	0.17	10	30%	Pass	
Mercury	S20-Ap00837	CP	mg/L	0.0003	0.0004	16	30%	Pass	
Nickel	S20-Ap00837	CP	mg/L	0.099	0.11	15	30%	Pass	
Zinc	S20-Ap00837	CP	mg/L	0.56	0.62	10	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs

Authorised By

Andrew Black	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Gabriele Cordero	Senior Analyst-Metal (NSW)

Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

#AU04_Enviro_Sample_NSW

Subject: FW: 2 DAY TAT ADDITIONAL ANALYSIS: FW: Additional Analysis (Coffey)

Importance: High

From: Blackford, Sean [mailto:Sean.Blackford@coffey.com]
Sent: Wednesday, 22 April 2020 2:41 PM
To: Andrew Black
Cc: #AU08_EnviroSampleNTL
Subject: Additional Analysis (Coffey)

EXTERNAL EMAIL*

Hey Andrew,

Can I please request additional analysis on report (708902-S)?
Can I have the remaining media of following samples analysed for Asbestos P/A on 2-Day TAT?

- CBH01_0.0_0.2
- CBH02_0.0_0.2
- CBH03_0.0_0.2
- CBH04_0.0_0.2
- CBH05_0.0_0.2
- CBH06_0.0_0.2
- CBH08_0.0_0.2
- CBH09_0.0_0.2

If there are any issues with this request, please let me know.

Cheers,

Sean Blackford
Environmental Consultant

16 Callistemon Close
Warabrook NSW, 2304

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m: +418 549 796

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Phone : +61 8 9251 9600
NATA # 1261 Site # 23736

ABN – 50 005 085 521 e.mail : EnviroSales@eurofins.com web : www.eurofins.com.au

Sample Receipt Advice

Company name:	**Coffey Environments P/L N'castle**
Contact name:	Sean Blackford
Project name:	ADDITIONAL NEW MOPE DSI
Project ID:	NTLEN272143
COC number:	Not provided
Turn around time:	2 Day
Date/Time received:	Apr 22, 2020 2:41 PM
Eurofins reference:	**715098**

Sample information

☑ A detailed list of analytes logged into our LIMS, is included in the attached summary table.

☑ All samples have been received as described on the above COC.

☑ COC has been completed correctly.

N/A Attempt to chill was evident.

☑ Appropriately preserved sample containers have been used.

☑ All samples were received in good condition.

☑ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.

☑ Appropriate sample containers have been used.

☒ Split sample sent to requested external lab.

☒ Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

If you have any questions with respect to these samples please contact:

Andrew Black on Phone : (+61) 2 9900 8490 or by e.mail: AndrewBlack@eurofins.com

Results will be delivered electronically via e.mail to Sean Blackford - sean.blackford@coffey.com.

Note: A copy of these results will also be delivered to the general Coffey Environments P/L N'castle email address.

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Company Name: Coffey Environments P/L N'castle
Address: 16 Callistemon Close
Warabrook
NSW 2304

Project Name: ADDITIONAL NEW MOPE DSI
Project ID: NTLEN272143

Order No.:
Report #: 715098
Phone: 02 4016 2300
Fax: 02 4016 2380

Received: Apr 22, 2020 2:41 PM
Due: Apr 24, 2020
Priority: 2 Day
Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	CBH01_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31510	X
2	CBH02_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31511	X
3	CBH03_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31512	X
4	CBH04_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31513	X
5	CBH05_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31514	X
6	CBH06_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31515	X

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Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
7	CBH08_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31516	X
8	CBH09_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31517	X
Test Counts						8

Coffey Environments Pty Ltd Newcastle
16 Callistemon Close
Warabrook
NSW 2304

Attention:	Sean Blackford
Report	715098-AID
Project Name	ADDITIONAL NEW MOPE DSI
Project ID	NTLEN272143
Received Date	Apr 22, 2020
Date Reported	Apr 24, 2020

Methodology:

Asbestos Fibre Identification	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. *NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*
Unknown Mineral Fibres	Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity. *NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*
Subsampling Soil Samples	The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed. *NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination.The resultant material is then further examined in accordance with AS 4964 - 2004. *NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*
Limit of Reporting	The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w). The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk). *NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos".This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

Project Name ADDITIONAL NEW MOPE DSI
Project ID NTLEN272143
Date Sampled Mar 18, 2020
Report 715098-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
CBH01_0.0-0.2	20-Ap31510	Mar 18, 2020	Approximate Sample 37g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
CBH02_0.0-0.2	20-Ap31511	Mar 18, 2020	Approximate Sample 70g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
CBH03_0.0-0.2	20-Ap31512	Mar 18, 2020	Approximate Sample 88g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
CBH04_0.0-0.2	20-Ap31513	Mar 18, 2020	Approximate Sample 72g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
CBH05_0.0-0.2	20-Ap31514	Mar 18, 2020	Approximate Sample 74g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
CBH06_0.0-0.2	20-Ap31515	Mar 18, 2020	Approximate Sample 44g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
CBH08_0.0-0.2	20-Ap31516	Mar 18, 2020	Approximate Sample 73g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
CBH09_0.0-0.2	20-Ap31517	Mar 18, 2020	Approximate Sample 58g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Apr 22, 2020	Indefinite

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NSW 2304

Project Name: ADDITIONAL NEW MOPE DSI
Project ID: NTLEN272143

Order No.:
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Received: Apr 22, 2020 2:41 PM
Due: Apr 24, 2020
Priority: 2 Day
Contact Name: Sean Blackford

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - AS4964
Melbourne Laboratory - NATA Site # 1254 & 14271						
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Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	CBH01_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31510	X
2	CBH02_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31511	X
3	CBH03_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31512	X
4	CBH04_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31513	X
5	CBH05_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31514	X
6	CBH06_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31515	X

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Perth Laboratory - NATA Site # 23736						
7	CBH08_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31516	X
8	CBH09_0.0-0.2	Mar 18, 2020		Soil	S20-Ap31517	X
Test Counts						8

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
5. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

% w/w: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory’s remit to assess degree of friability.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	N/A
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please click here.

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2009982**	Page	: 1 of 8
Client	: **COFFEY ENVIRONMENTS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SEAN BLACKFORD	Contact	: Customer Services ES
Address	: LEVEL 19, 799 PACIFIC HIGHWAY Tower B - Citadel Tower CHATSWOOD NSW, AUSTRALIA 2067	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9406 1000	Telephone	: +61-2-8784 8555
Project	: NTLEN272143 - NEW HOPE DSI	Date Samples Received	: 23-Mar-2020 15:30
Order number	: ----	Date Analysis Commenced	: 23-Mar-2020
C-O-C number	: ----	Issue Date	: 30-Mar-2020 09:14
Sampler	: SEAN BLACKFORD		
Site	:		
Quote number	: EN/222		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero, for 'TEQ 1/2LOR' are treated as half the reported LOR, and for 'TEQ LOR' are treated as being equal to the reported LOR. Note: TEQ 1/2LOR and TEQ LOR will calculate as 0.6mg/Kg and 1.2mg/Kg respectively for samples with non-detects for all of the eight TEQ PAHs.
- EP068: Positive results have been confirmed by re-extraction and re-analysis.

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)			Client sample ID	QC2	QC4	----	----	----
			Client sampling date / time	18-Mar-2020 00:00	18-Mar-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit	ES2009982-001	ES2009982-002	--------	--------	--------
				Result	Result	----	----	----
EA055: Moisture Content (Dried @ 105-110°C)								
Moisture Content	----	1.0	%	**21.0**	**16.9**	----	----	----
EG005(ED093)T: Total Metals by ICP-AES								
Arsenic	7440-38-2	5	mg/kg	**11**	**8**	----	----	----
Cadmium	7440-43-9	1	mg/kg	<1	<1	----	----	----
Chromium	7440-47-3	2	mg/kg	**23**	**15**	----	----	----
Copper	7440-50-8	5	mg/kg	**6**	**34**	----	----	----
Lead	7439-92-1	5	mg/kg	**17**	**17**	----	----	----
Nickel	7440-02-0	2	mg/kg	<2	<2	----	----	----
Zinc	7440-66-6	5	mg/kg	**6**	**14**	----	----	----
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	----	----	----
EP066: Polychlorinated Biphenyls (PCB)								
Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	----	----	----
EP068A: Organochlorine Pesticides (OC)								
alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	----	----	----
gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	----	----	----
delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	----	----	----
Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Total Chlordane (sum)	----	0.05	mg/kg	<0.05	<0.05	----	----	----
trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	----	----	----
alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	----	----	----
cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	----	----	----
Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	**0.23**	----	----	----
Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	----	----	----
beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	----	----	----
^ Endosulfan (sum)	115-29-7	0.05	mg/kg	<0.05	<0.05	----	----	----
4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	----	----	----
Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	----	----	----
Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QC2	QC4	----	----	----
				Client sampling date / time	18-Mar-2020 00:00	18-Mar-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2009982-001	ES2009982-002	--------	--------	--------
					Result	Result	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
4.4`-DDT	50-29-3	0.2	mg/kg		<0.2	**0.3**	----	----	----
Endrin ketone	53494-70-5	0.05	mg/kg		<0.05	<0.05	----	----	----
Methoxychlor	72-43-5	0.2	mg/kg		<0.2	<0.2	----	----	----
^ **Sum of Aldrin + Dieldrin**	309-00-2/60-57-1	0.05	mg/kg		<0.05	<0.05	----	----	----
^ **Sum of DDD + DDE + DDT**	72-54-8/72-55-9/50-2	0.05	mg/kg		<0.05	**0.53**	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.05	mg/kg		<0.05	<0.05	----	----	----
Demeton-S-methyl	919-86-8	0.05	mg/kg		<0.05	<0.05	----	----	----
Monocrotophos	6923-22-4	0.2	mg/kg		<0.2	<0.2	----	----	----
Dimethoate	60-51-5	0.05	mg/kg		<0.05	<0.05	----	----	----
Diazinon	333-41-5	0.05	mg/kg		<0.05	<0.05	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg		<0.05	<0.05	----	----	----
Parathion-methyl	298-00-0	0.2	mg/kg		<0.2	<0.2	----	----	----
Malathion	121-75-5	0.05	mg/kg		<0.05	<0.05	----	----	----
Fenthion	55-38-9	0.05	mg/kg		<0.05	<0.05	----	----	----
Chlorpyrifos	2921-88-2	0.05	mg/kg		<0.05	<0.05	----	----	----
Parathion	56-38-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Pirimphos-ethyl	23505-41-1	0.05	mg/kg		<0.05	<0.05	----	----	----
Chlorfenvinphos	470-90-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Bromophos-ethyl	4824-78-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Fenamiphos	22224-92-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Prothiofos	34643-46-4	0.05	mg/kg		<0.05	<0.05	----	----	----
Ethion	563-12-2	0.05	mg/kg		<0.05	<0.05	----	----	----
Carbophenothion	786-19-6	0.05	mg/kg		<0.05	<0.05	----	----	----
Azinphos Methyl	86-50-0	0.05	mg/kg		<0.05	<0.05	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	0.5	mg/kg		<0.5	<0.5	----	----	----
2-Chlorophenol	95-57-8	0.5	mg/kg		<0.5	<0.5	----	----	----
2-Methylphenol	95-48-7	0.5	mg/kg		<0.5	<0.5	----	----	----
3- & 4-Methylphenol	1319-77-3	1	mg/kg		<1	<1	----	----	----
2-Nitrophenol	88-75-5	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4-Dimethylphenol	105-67-9	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4-Dichlorophenol	120-83-2	0.5	mg/kg		<0.5	<0.5	----	----	----
2.6-Dichlorophenol	87-65-0	0.5	mg/kg		<0.5	<0.5	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QC2	QC4	----	----	----
				Client sampling date / time	18-Mar-2020 00:00	18-Mar-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2009982-001	ES2009982-002	--------	--------	--------
					Result	Result	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg		<0.5	<0.5	----	----	----
2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg		<0.5	<0.5	----	----	----
Pentachlorophenol	87-86-5	2	mg/kg		<2	<2	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthylene	208-96-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Acenaphthene	83-32-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluorene	86-73-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Phenanthrene	85-01-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Anthracene	120-12-7	0.5	mg/kg		<0.5	<0.5	----	----	----
Fluoranthene	206-44-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Pyrene	129-00-0	0.5	mg/kg		<0.5	<0.5	----	----	----
Benz(a)anthracene	56-55-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Chrysene	218-01-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(k)fluoranthene	207-08-9	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(a)pyrene	50-32-8	0.5	mg/kg		<0.5	<0.5	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg		<0.5	<0.5	----	----	----
Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Benzo(a)pyrene TEQ (half LOR)	----	0.5	mg/kg		**0.6**	**0.6**	----	----	----
^ Benzo(a)pyrene TEQ (LOR)	----	0.5	mg/kg		**1.2**	**1.2**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	10	mg/kg		<10	<10	----	----	----
C10 - C14 Fraction	----	50	mg/kg		<50	<50	----	----	----
C15 - C28 Fraction	----	100	mg/kg		<100	<100	----	----	----
C29 - C36 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ C10 - C36 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	10	mg/kg		<10	<10	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QC2	QC4	----	----	----
				Client sampling date / time	18-Mar-2020 00:00	18-Mar-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2009982-001	ES2009982-002	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	10	mg/kg		<10	<10	----	----	----
>C10 - C16 Fraction	----	50	mg/kg		<50	<50	----	----	----
>C16 - C34 Fraction	----	100	mg/kg		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	mg/kg		<100	<100	----	----	----
^ >C10 - C40 Fraction (sum)	----	50	mg/kg		<50	<50	----	----	----
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	50	mg/kg		<50	<50	----	----	----
EP080: BTEXN									
Benzene	71-43-2	0.2	mg/kg		<0.2	<0.2	----	----	----
Toluene	108-88-3	0.5	mg/kg		<0.5	<0.5	----	----	----
Ethylbenzene	100-41-4	0.5	mg/kg		<0.5	<0.5	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg		<0.5	<0.5	----	----	----
ortho-Xylene	95-47-6	0.5	mg/kg		<0.5	<0.5	----	----	----
^ Sum of BTEX	----	0.2	mg/kg		<0.2	<0.2	----	----	----
^ Total Xylenes	----	0.5	mg/kg		<0.5	<0.5	----	----	----
Naphthalene	91-20-3	1	mg/kg		<1	<1	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	0.1	%		**116**	**88.9**	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.05	%		**103**	**100.0**	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.05	%		**113**	**108**	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	0.5	%		**90.0**	**91.7**	----	----	----
2-Chlorophenol-D4	93951-73-6	0.5	%		**88.2**	**90.7**	----	----	----
2.4.6-Tribromophenol	118-79-6	0.5	%		**55.0**	**57.6**	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	0.5	%		**96.2**	**97.8**	----	----	----
Anthracene-d10	1719-06-8	0.5	%		**89.7**	**86.4**	----	----	----
4-Terphenyl-d14	1718-51-0	0.5	%		**101**	**97.3**	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	0.2	%		**89.8**	**96.4**	----	----	----
Toluene-D8	2037-26-5	0.2	%		**99.9**	**106**	----	----	----

Analytical Results

Sub-Matrix: SOIL (Matrix: SOIL)				Client sample ID	QC2	QC4	----	----	----
				Client sampling date / time	18-Mar-2020 00:00	18-Mar-2020 00:00	----	----	----
Compound	CAS Number	LOR	Unit		ES2009982-001	ES2009982-002	--------	--------	--------
					Result	Result	----	----	----
EP080S: TPH(V)/BTEX Surrogates - Continued									
4-Bromofluorobenzene	460-00-4	0.2	%		**108**	**118**	**----**	**----**	**----**

Surrogate Control Limits

Sub-Matrix: **SOIL**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	39	149
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	49	147
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	35	143
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	63	123
2-Chlorophenol-D4	93951-73-6	66	122
2.4.6-Tribromophenol	118-79-6	40	138
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	70	122
Anthracene-d10	1719-06-8	66	128
4-Terphenyl-d14	1718-51-0	65	129
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	133
Toluene-D8	2037-26-5	74	132
4-Bromofluorobenzene	460-00-4	72	130

ALS Environmental

QUALITY CONTROL REPORT

Work Order	: **ES2009982**	Page	: 1 of 12
Client	: **COFFEY ENVIRONMENTS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SEAN BLACKFORD	Contact	: Customer Services ES
Address	: LEVEL 19, 799 PACIFIC HIGHWAY Tower B - Citadel Tower CHATSWOOD NSW, AUSTRALIA 2067	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9406 1000	Telephone	: +61-2-8784 8555
Project	: NTLEN272143 - NEW HOPE DSI	Date Samples Received	: 23-Mar-2020
Order number	: ----	Date Analysis Commenced	: 23-Mar-2020
C-O-C number	: ----	Issue Date	: 30-Mar-2020
Sampler	: SEAN BLACKFORD		
Site	:		
Quote number	: EN/222		
No. of samples received	: 2		
No. of samples analysed	: 2		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
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General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG005(ED093)T: Total Metals by ICP-AES (QC Lot: 2933890)									
ES2009778-025	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	8	8	0.00	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	28	28	0.00	0% - 50%
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	6	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	12	12	0.00	No Limit
		EG005T: Lead	7439-92-1	5	mg/kg	15	14	0.00	No Limit
		EG005T: Zinc	7440-66-6	5	mg/kg	65	67	2.79	0% - 50%
ES2010015-001	Anonymous	EG005T: Cadmium	7440-43-9	1	mg/kg	<1	<1	0.00	No Limit
		EG005T: Chromium	7440-47-3	2	mg/kg	18	8	72.0	No Limit
		EG005T: Nickel	7440-02-0	2	mg/kg	3	2	0.00	No Limit
		EG005T: Arsenic	7440-38-2	5	mg/kg	6	<5	0.00	No Limit
		EG005T: Copper	7440-50-8	5	mg/kg	74	91	21.2	0% - 50%
		EG005T: Lead	7439-92-1	5	mg/kg	66	87	27.1	0% - 50%
		EG005T: Zinc	7440-66-6	5	mg/kg	401	439	9.08	0% - 20%
EA055: Moisture Content (Dried @ 105-110°C) (QC Lot: 2933893)									
ES2009778-028	Anonymous	EA055: Moisture Content	----	0.1	%	20.4	19.6	4.07	0% - 20%
ES2010015-001	Anonymous	EA055: Moisture Content	----	0.1	%	19.2	16.6	14.3	0% - 50%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2933891)									
ES2009778-025	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2010015-001	Anonymous	EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP066: Polychlorinated Biphenyls (PCB) (QC Lot: 2932189)									
ES2009727-037	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
ES2009727-054	Anonymous	EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	<0.1	0.00	No Limit
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2932192)									

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2932192) - continued									
ES2009727-037	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2009727-054	Anonymous	EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068A: Organochlorine Pesticides (OC) (QC Lot: 2932192) - continued									
ES2009727-054	Anonymous	EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2932192)									
ES2009727-037	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
ES2009727-054	Anonymous	EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	<0.05	0.00	No Limit
		EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	<0.2	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP068B: Organophosphorus Pesticides (OP) (QC Lot: 2932192) - continued									
ES2009727-054	Anonymous	EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
EP075(SIM)A: Phenolic Compounds (QC Lot: 2932191)									
ES2009727-037	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
ES2009727-054	Anonymous	EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	<1	0.00	No Limit
		EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	<2	0.00	No Limit
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2932191)									
ES2009727-037	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit

Sub-Matrix: **SOIL**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QC Lot: 2932191) - continued									
ES2009727-037	Anonymous	EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
ES2009727-054	Anonymous	EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Sum of polycyclic aromatic hydrocarbons	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP075(SIM): Benzo(a)pyrene TEQ (zero)	----	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2931852)									
ES2009479-001	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
ES2009479-021	Anonymous	EP080: C6 - C9 Fraction	----	10	mg/kg	<10	<10	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2932190)									
ES2009727-037	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2009727-054	Anonymous	EP071: C15 - C28 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C29 - C36 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: C10 - C14 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2931852)									
ES2009479-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit
ES2009479-021	Anonymous	EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	<10	0.00	No Limit

Sub-Matrix: **SOIL**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2932190)									
ES2009727-037	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
ES2009727-054	Anonymous	EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	<100	0.00	No Limit
		EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	<50	0.00	No Limit
EP080: BTEXN (QC Lot: 2931852)									
ES2009479-001	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit
ES2009479-021	Anonymous	EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	<0.2	0.00	No Limit
		EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	<0.5	0.00	No Limit
		EP080: Naphthalene	91-20-3	1	mg/kg	<1	<1	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **SOIL**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2933890)								
EG005T: Arsenic	7440-38-2	5	mg/kg	<5	21.7 mg/kg	99.1	86.0	126
EG005T: Cadmium	7440-43-9	1	mg/kg	<1	4.64 mg/kg	93.0	83.0	113
EG005T: Chromium	7440-47-3	2	mg/kg	<2	43.9 mg/kg	94.0	76.0	128
EG005T: Copper	7440-50-8	5	mg/kg	<5	32 mg/kg	92.4	86.0	120
EG005T: Lead	7439-92-1	5	mg/kg	<5	40 mg/kg	95.6	80.0	114
EG005T: Nickel	7440-02-0	2	mg/kg	<2	55 mg/kg	99.5	87.0	123
EG005T: Zinc	7440-66-6	5	mg/kg	<5	60.8 mg/kg	101	80.0	122
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2933891)								
EG035T: Mercury	7439-97-6	0.1	mg/kg	<0.1	2.57 mg/kg	80.5	70.0	105
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2932189)								
EP066: Total Polychlorinated biphenyls	----	0.1	mg/kg	<0.1	1 mg/kg	83.9	62.0	126
EP068A: Organochlorine Pesticides (OC) (QCLot: 2932192)								
EP068: alpha-BHC	319-84-6	0.05	mg/kg	<0.05	0.5 mg/kg	107	69.0	113
EP068: Hexachlorobenzene (HCB)	118-74-1	0.05	mg/kg	<0.05	0.5 mg/kg	99.5	65.0	117
EP068: beta-BHC	319-85-7	0.05	mg/kg	<0.05	0.5 mg/kg	102	67.0	119
EP068: gamma-BHC	58-89-9	0.05	mg/kg	<0.05	0.5 mg/kg	105	68.0	116
EP068: delta-BHC	319-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	97.0	65.0	117
EP068: Heptachlor	76-44-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.1	67.0	115
EP068: Aldrin	309-00-2	0.05	mg/kg	<0.05	0.5 mg/kg	100.0	69.0	115
EP068: Heptachlor epoxide	1024-57-3	0.05	mg/kg	<0.05	0.5 mg/kg	95.8	62.0	118
EP068: trans-Chlordane	5103-74-2	0.05	mg/kg	<0.05	0.5 mg/kg	104	63.0	117
EP068: alpha-Endosulfan	959-98-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	66.0	116
EP068: cis-Chlordane	5103-71-9	0.05	mg/kg	<0.05	0.5 mg/kg	102	64.0	116
EP068: Dieldrin	60-57-1	0.05	mg/kg	<0.05	0.5 mg/kg	105	66.0	116
EP068: 4.4`-DDE	72-55-9	0.05	mg/kg	<0.05	0.5 mg/kg	95.1	67.0	115
EP068: Endrin	72-20-8	0.05	mg/kg	<0.05	0.5 mg/kg	105	67.0	123
EP068: beta-Endosulfan	33213-65-9	0.05	mg/kg	<0.05	0.5 mg/kg	100	69.0	115
EP068: 4.4`-DDD	72-54-8	0.05	mg/kg	<0.05	0.5 mg/kg	98.7	69.0	121
EP068: Endrin aldehyde	7421-93-4	0.05	mg/kg	<0.05	0.5 mg/kg	105	56.0	120
EP068: Endosulfan sulfate	1031-07-8	0.05	mg/kg	<0.05	0.5 mg/kg	94.8	62.0	124
EP068: 4.4`-DDT	50-29-3	0.2	mg/kg	<0.2	0.5 mg/kg	104	66.0	120
EP068: Endrin ketone	53494-70-5	0.05	mg/kg	<0.05	0.5 mg/kg	104	64.0	122
EP068: Methoxychlor	72-43-5	0.2	mg/kg	<0.2	0.5 mg/kg	98.7	54.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2932192)								

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2932192) - continued								
EP068: Dichlorvos	62-73-7	0.05	mg/kg	<0.05	0.5 mg/kg	101	59.0	119
EP068: Demeton-S-methyl	919-86-8	0.05	mg/kg	<0.05	0.5 mg/kg	107	62.0	128
EP068: Monocrotophos	6923-22-4	0.2	mg/kg	<0.2	0.5 mg/kg	86.8	54.0	126
EP068: Dimethoate	60-51-5	0.05	mg/kg	<0.05	0.5 mg/kg	86.8	67.0	119
EP068: Diazinon	333-41-5	0.05	mg/kg	<0.05	0.5 mg/kg	94.3	70.0	120
EP068: Chlorpyrifos-methyl	5598-13-0	0.05	mg/kg	<0.05	0.5 mg/kg	101	72.0	120
EP068: Parathion-methyl	298-00-0	0.2	mg/kg	<0.2	0.5 mg/kg	97.3	68.0	120
EP068: Malathion	121-75-5	0.05	mg/kg	<0.05	0.5 mg/kg	96.6	68.0	122
EP068: Fenthion	55-38-9	0.05	mg/kg	<0.05	0.5 mg/kg	103	69.0	117
EP068: Chlorpyrifos	2921-88-2	0.05	mg/kg	<0.05	0.5 mg/kg	101	76.0	118
EP068: Parathion	56-38-2	0.2	mg/kg	<0.2	0.5 mg/kg	99.8	64.0	122
EP068: Pirimphos-ethyl	23505-41-1	0.05	mg/kg	<0.05	0.5 mg/kg	97.9	70.0	116
EP068: Chlorfenvinphos	470-90-6	0.05	mg/kg	<0.05	0.5 mg/kg	98.9	69.0	121
EP068: Bromophos-ethyl	4824-78-6	0.05	mg/kg	<0.05	0.5 mg/kg	104	66.0	118
EP068: Fenamiphos	22224-92-6	0.05	mg/kg	<0.05	0.5 mg/kg	83.3	68.0	124
EP068: Prothiofos	34643-46-4	0.05	mg/kg	<0.05	0.5 mg/kg	102	62.0	112
EP068: Ethion	563-12-2	0.05	mg/kg	<0.05	0.5 mg/kg	103	68.0	120
EP068: Carbophenothion	786-19-6	0.05	mg/kg	<0.05	0.5 mg/kg	99.1	65.0	127
EP068: Azinphos Methyl	86-50-0	0.05	mg/kg	<0.05	0.5 mg/kg	72.6	41.0	123
EP075(SIM)A: Phenolic Compounds (QCLot: 2932191)								
EP075(SIM): Phenol	108-95-2	0.5	mg/kg	<0.5	6 mg/kg	93.2	71.0	125
EP075(SIM): 2-Chlorophenol	95-57-8	0.5	mg/kg	<0.5	6 mg/kg	98.4	72.0	124
EP075(SIM): 2-Methylphenol	95-48-7	0.5	mg/kg	<0.5	6 mg/kg	91.5	71.0	123
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	1	mg/kg	<1	12 mg/kg	95.0	67.0	127
EP075(SIM): 2-Nitrophenol	88-75-5	0.5	mg/kg	<0.5	6 mg/kg	90.8	54.0	114
EP075(SIM): 2.4-Dimethylphenol	105-67-9	0.5	mg/kg	<0.5	6 mg/kg	90.8	68.0	126
EP075(SIM): 2.4-Dichlorophenol	120-83-2	0.5	mg/kg	<0.5	6 mg/kg	93.2	66.0	120
EP075(SIM): 2.6-Dichlorophenol	87-65-0	0.5	mg/kg	<0.5	6 mg/kg	96.1	70.0	120
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	0.5	mg/kg	<0.5	6 mg/kg	95.7	70.0	116
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	0.5	mg/kg	<0.5	6 mg/kg	90.4	54.0	114
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	0.5	mg/kg	<0.5	6 mg/kg	98.2	60.0	114
EP075(SIM): Pentachlorophenol	87-86-5	2	mg/kg	<2	12 mg/kg	22.0	10.0	57.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2932191)								
EP075(SIM): Naphthalene	91-20-3	0.5	mg/kg	<0.5	6 mg/kg	93.9	77.0	125
EP075(SIM): Acenaphthylene	208-96-8	0.5	mg/kg	<0.5	6 mg/kg	98.2	72.0	124
EP075(SIM): Acenaphthene	83-32-9	0.5	mg/kg	<0.5	6 mg/kg	92.5	73.0	127
EP075(SIM): Fluorene	86-73-7	0.5	mg/kg	<0.5	6 mg/kg	94.0	72.0	126
EP075(SIM): Phenanthrene	85-01-8	0.5	mg/kg	<0.5	6 mg/kg	93.2	75.0	127
EP075(SIM): Anthracene	120-12-7	0.5	mg/kg	<0.5	6 mg/kg	99.4	77.0	127

Sub-Matrix: **SOIL**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2932191) - continued								
EP075(SIM): Fluoranthene	206-44-0	0.5	mg/kg	<0.5	6 mg/kg	96.0	73.0	127
EP075(SIM): Pyrene	129-00-0	0.5	mg/kg	<0.5	6 mg/kg	93.1	74.0	128
EP075(SIM): Benz(a)anthracene	56-55-3	0.5	mg/kg	<0.5	6 mg/kg	89.4	69.0	123
EP075(SIM): Chrysene	218-01-9	0.5	mg/kg	<0.5	6 mg/kg	92.1	75.0	127
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	0.5	mg/kg	<0.5	6 mg/kg	98.6	68.0	116
EP075(SIM): Benzo(k)fluoranthene	207-08-9	0.5	mg/kg	<0.5	6 mg/kg	91.2	74.0	126
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	mg/kg	<0.5	6 mg/kg	91.0	70.0	126
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	0.5	mg/kg	<0.5	6 mg/kg	94.1	61.0	121
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	0.5	mg/kg	<0.5	6 mg/kg	92.0	62.0	118
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	0.5	mg/kg	<0.5	6 mg/kg	92.1	63.0	121
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2931852)								
EP080: C6 - C9 Fraction	----	10	mg/kg	<10	26 mg/kg	110	68.4	128
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2932190)								
EP071: C10 - C14 Fraction	----	50	mg/kg	<50	300 mg/kg	84.5	75.0	129
EP071: C15 - C28 Fraction	----	100	mg/kg	<100	450 mg/kg	89.6	77.0	131
EP071: C29 - C36 Fraction	----	100	mg/kg	<100	300 mg/kg	84.8	71.0	129
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2931852)								
EP080: C6 - C10 Fraction	C6_C10	10	mg/kg	<10	31 mg/kg	112	68.4	128
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2932190)								
EP071: >C10 - C16 Fraction	----	50	mg/kg	<50	375 mg/kg	87.9	77.0	125
EP071: >C16 - C34 Fraction	----	100	mg/kg	<100	525 mg/kg	87.7	74.0	138
EP071: >C34 - C40 Fraction	----	100	mg/kg	<100	225 mg/kg	77.4	63.0	131
EP080: BTEXN (QCLot: 2931852)								
EP080: Benzene	71-43-2	0.2	mg/kg	<0.2	1 mg/kg	112	62.0	116
EP080: Toluene	108-88-3	0.5	mg/kg	<0.5	1 mg/kg	111	67.0	121
EP080: Ethylbenzene	100-41-4	0.5	mg/kg	<0.5	1 mg/kg	114	65.0	117
EP080: meta- & para-Xylene	108-38-3 106-42-3	0.5	mg/kg	<0.5	2 mg/kg	112	66.0	118
EP080: ortho-Xylene	95-47-6	0.5	mg/kg	<0.5	1 mg/kg	115	68.0	120
EP080: Naphthalene	91-20-3	1	mg/kg	<1	1 mg/kg	93.7	63.0	119

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **SOIL**

Matrix Spike (MS) Report		
Spike	SpikeRecovery(%)	Recovery Limits (%)

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG005(ED093)T: Total Metals by ICP-AES (QCLot: 2933890)							
ES2009778-025	Anonymous	EG005T: Arsenic	7440-38-2	50 mg/kg	94.6	70.0	130
		EG005T: Cadmium	7440-43-9	50 mg/kg	97.1	70.0	130
		EG005T: Chromium	7440-47-3	50 mg/kg	94.7	70.0	130
		EG005T: Copper	7440-50-8	250 mg/kg	94.5	70.0	130
		EG005T: Lead	7439-92-1	250 mg/kg	96.6	70.0	130
		EG005T: Nickel	7440-02-0	50 mg/kg	90.4	70.0	130
		EG005T: Zinc	7440-66-6	250 mg/kg	97.2	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2933891)							
ES2009778-025	Anonymous	EG035T: Mercury	7439-97-6	5 mg/kg	84.6	70.0	130
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2932189)							
ES2009727-037	Anonymous	EP066: Total Polychlorinated biphenyls	----	1 mg/kg	112	70.0	130
EP068A: Organochlorine Pesticides (OC) (QCLot: 2932192)							
ES2009727-037	Anonymous	EP068: gamma-BHC	58-89-9	0.5 mg/kg	88.3	70.0	130
		EP068: Heptachlor	76-44-8	0.5 mg/kg	91.7	70.0	130
		EP068: Aldrin	309-00-2	0.5 mg/kg	100	70.0	130
		EP068: Dieldrin	60-57-1	0.5 mg/kg	93.1	70.0	130
		EP068: Endrin	72-20-8	2 mg/kg	88.5	70.0	130
		EP068: 4.4`-DDT	50-29-3	2 mg/kg	101	70.0	130
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2932192)							
ES2009727-037	Anonymous	EP068: Diazinon	333-41-5	0.5 mg/kg	93.6	70.0	130
		EP068: Chlorpyrifos-methyl	5598-13-0	0.5 mg/kg	84.6	70.0	130
		EP068: Pirimphos-ethyl	23505-41-1	0.5 mg/kg	79.8	70.0	130
		EP068: Bromophos-ethyl	4824-78-6	0.5 mg/kg	85.3	70.0	130
		EP068: Prothiofos	34643-46-4	0.5 mg/kg	93.1	70.0	130
EP075(SIM)A: Phenolic Compounds (QCLot: 2932191)							
ES2009727-037	Anonymous	EP075(SIM): Phenol	108-95-2	10 mg/kg	96.1	70.0	130
		EP075(SIM): 2-Chlorophenol	95-57-8	10 mg/kg	88.8	70.0	130
		EP075(SIM): 2-Nitrophenol	88-75-5	10 mg/kg	87.0	60.0	130
		EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	10 mg/kg	97.8	70.0	130
		EP075(SIM): Pentachlorophenol	87-86-5	10 mg/kg	40.8	20.0	130
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2932191)							
ES2009727-037	Anonymous	EP075(SIM): Acenaphthene	83-32-9	10 mg/kg	95.4	70.0	130
		EP075(SIM): Pyrene	129-00-0	10 mg/kg	101	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2931852)							
ES2009479-001	Anonymous	EP080: C6 - C9 Fraction	----	32.5 mg/kg	111	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2932190)							

Sub-Matrix: **SOIL**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2932190) - continued							
ES2009727-037	Anonymous	EP071: C10 - C14 Fraction	----	523 mg/kg	77.9	73.0	137
		EP071: C15 - C28 Fraction	----	2319 mg/kg	101	53.0	131
		EP071: C29 - C36 Fraction	----	1714 mg/kg	108	52.0	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2931852)							
ES2009479-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	37.5 mg/kg	110	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2932190)							
ES2009727-037	Anonymous	EP071: >C10 - C16 Fraction	----	860 mg/kg	95.6	73.0	137
		EP071: >C16 - C34 Fraction	----	3223 mg/kg	113	53.0	131
		EP071: >C34 - C40 Fraction	----	1058 mg/kg	101	52.0	132
EP080: BTEXN (QCLot: 2931852)							
ES2009479-001	Anonymous	EP080: Benzene	71-43-2	2.5 mg/kg	102	70.0	130
		EP080: Toluene	108-88-3	2.5 mg/kg	99.5	70.0	130
		EP080: Ethylbenzene	100-41-4	2.5 mg/kg	102	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2.5 mg/kg	100	70.0	130
		EP080: ortho-Xylene	95-47-6	2.5 mg/kg	102	70.0	130
		EP080: Naphthalene	91-20-3	2.5 mg/kg	81.4	70.0	130

ALS Environmental

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2009982**	Page	: 1 of 5
Client	: **COFFEY ENVIRONMENTS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SEAN BLACKFORD	Telephone	: +61-2-8784 8555
Project	: NTLEN272143 - NEW HOPE DSI	Date Samples Received	: 23-Mar-2020
Site	:	Issue Date	: 30-Mar-2020
Sampler	: SEAN BLACKFORD	No. of samples received	: 2
Order number	: ----	No. of samples analysed	: 2

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **NO Quality Control Sample Frequency Outliers exist.**

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EA055: Moisture Content (Dried @ 105-110°C)								
Soil Glass Jar - Unpreserved (EA055)								
QC2,	QC4	**18-Mar-2020**	**----**	----	----	**24-Mar-2020**	01-Apr-2020	✓
EG005(ED093)T: Total Metals by ICP-AES								
Soil Glass Jar - Unpreserved (EG005T)								
QC2,	QC4	**18-Mar-2020**	**24-Mar-2020**	14-Sep-2020	✓	**26-Mar-2020**	14-Sep-2020	✓
EG035T: Total Recoverable Mercury by FIMS								
Soil Glass Jar - Unpreserved (EG035T)								
QC2,	QC4	**18-Mar-2020**	**24-Mar-2020**	15-Apr-2020	✓	**26-Mar-2020**	15-Apr-2020	✓
EP066: Polychlorinated Biphenyls (PCB)								
Soil Glass Jar - Unpreserved (EP066)								
QC2,	QC4	**18-Mar-2020**	**24-Mar-2020**	01-Apr-2020	✓	**26-Mar-2020**	03-May-2020	✓
EP068A: Organochlorine Pesticides (OC)								
Soil Glass Jar - Unpreserved (EP068)								
QC2,	QC4	**18-Mar-2020**	**24-Mar-2020**	01-Apr-2020	✓	**26-Mar-2020**	03-May-2020	✓
EP068B: Organophosphorus Pesticides (OP)								
Soil Glass Jar - Unpreserved (EP068)								
QC2,	QC4	**18-Mar-2020**	**24-Mar-2020**	01-Apr-2020	✓	**26-Mar-2020**	03-May-2020	✓
EP075(SIM)A: Phenolic Compounds								
Soil Glass Jar - Unpreserved (EP075(SIM))								
QC2,	QC4	**18-Mar-2020**	**24-Mar-2020**	01-Apr-2020	✓	**25-Mar-2020**	03-May-2020	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons								
Soil Glass Jar - Unpreserved (EP075(SIM))								
QC2,	QC4	**18-Mar-2020**	**24-Mar-2020**	01-Apr-2020	✓	**25-Mar-2020**	03-May-2020	✓
EP080/071: Total Petroleum Hydrocarbons								
Soil Glass Jar - Unpreserved (EP080)								
QC2,	QC4	**18-Mar-2020**	**23-Mar-2020**	01-Apr-2020	✓	**25-Mar-2020**	01-Apr-2020	✓
Soil Glass Jar - Unpreserved (EP071)								
QC2,	QC4	**18-Mar-2020**	**24-Mar-2020**	01-Apr-2020	✓	**25-Mar-2020**	03-May-2020	✓

Matrix: **SOIL**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
Soil Glass Jar - Unpreserved (EP080)								
QC2,	QC4	**18-Mar-2020**	**23-Mar-2020**	01-Apr-2020	✓	**25-Mar-2020**	01-Apr-2020	✓
Soil Glass Jar - Unpreserved (EP071)								
QC2,	QC4	**18-Mar-2020**	**24-Mar-2020**	01-Apr-2020	✓	**25-Mar-2020**	03-May-2020	✓
EP080: BTEXN								
Soil Glass Jar - Unpreserved (EP080)								
QC2,	QC4	**18-Mar-2020**	**23-Mar-2020**	01-Apr-2020	✓	**25-Mar-2020**	01-Apr-2020	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **SOIL**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Moisture Content	EA055	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
PAH/Phenols (SIM)	EP075(SIM)	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	15	**13.33**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	2	18	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (SIM)	EP075(SIM)	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	15	**6.67**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-AES	EG005T	1	18	**5.56**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Moisture Content	EA055	SOIL	In house: A gravimetric procedure based on weight loss over a 12 hour drying period at 105-110 degrees C. This method is compliant with NEPM (2013) Schedule B(3) Section 6.1 and Table 1 (14 day holding time).
Total Metals by ICP-AES	EG005T	SOIL	In house: Referenced to APHA 3120; USEPA SW 846 - 6010. Metals are determined following an appropriate acid digestion of the soil. The ICPAES technique ionises samples in a plasma, emitting a characteristic spectrum based on metals present. Intensities at selected wavelengths are compared against those of matrix matched standards. This method is compliant with NEPM (2013) Schedule B(3)
Total Mercury by FIMS	EG035T	SOIL	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2) (Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. Mercury in solids are determined following an appropriate acid digestion. Ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 504)
Pesticides by GCMS	EP068	SOIL	In house: Referenced to USEPA SW 846 - 8270D Extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This technique is compliant with NEPM (2013) Schedule B(3) (Method 504,505)
TRH - Semivolatile Fraction	EP071	SOIL	In house: Referenced to USEPA SW 846 - 8015A Sample extracts are analysed by Capillary GC/FID and quantified against alkane standards over the range C10 - C40. Compliant with NEPM amended 2013.
PAH/Phenols (SIM)	EP075(SIM)	SOIL	In house: Referenced to USEPA SW 846 - 8270D. Extracts are analysed by Capillary GC/MS in Selective Ion Mode (SIM) and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3) (Method 502 and 507)
TRH Volatiles/BTEX	EP080	SOIL	In house: Referenced to USEPA SW 846 - 8260B. Extracts are analysed by Purge and Trap, Capillary GC/MS. Quantification is by comparison against an established 5 point calibration curve. Compliant with NEPM amended 2013.

Preparation Methods	Method	Matrix	Method Descriptions
Hot Block Digest for metals in soils sediments and sludges	EN69	SOIL	In house: Referenced to USEPA 200.2. Hot Block Acid Digestion 1.0g of sample is heated with Nitric and Hydrochloric acids, then cooled. Peroxide is added and samples heated and cooled again before being filtered and bulked to volume for analysis. Digest is appropriate for determination of selected metals in sludge, sediments, and soils. This method is compliant with NEPM (2013) Schedule B(3) (Method 202)
Methanolic Extraction of Soils for Purge and Trap	ORG16	SOIL	In house: Referenced to USEPA SW 846 - 5030A. 5g of solid is shaken with surrogate and 10mL methanol prior to analysis by Purge and Trap - GC/MS.
Tumbler Extraction of Solids	ORG17	SOIL	In house: Mechanical agitation (tumbler). 10g of sample, Na2SO4 and surrogate are extracted with 30mL 1:1 DCM/Acetone by end over end tumble. The solvent is decanted, dehydrated and concentrated (by KD) to the desired volume for analysis.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 3 5912

coffey

Consigning Office: WARWICK

Report Results to: SEAN BLACKFORD Mobile: 0418 549 796 Email: sean.blackford @coffey.com

Invoices to: GEN ADMIN Phone: - Email: @coffey.com

Project No: NTLEN272143 Task No: LA13

Project Name: NEW HOPE DSI Laboratory: MCT

Sampler's Name: S BLACKFORD Project Manager:

Analysis Request Section

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	SUITE A	SUITE B
	CBH01 - 0.0 - 0.2	18/3	AM	SOIL	J	STD	X	X
	0.5 - 0.6						X	X
	1.0 - 1.1							
	1.9 - 2.0							
	CBH02 - 0.0 - 0.2						X	X
	0.5 - 0.6						X	X
	1.0 - 1.1							
	1.6 - 1.7							
	CBH03 - 0.0 - 0.2						X	X
	0.5 - 0.6							
	1.0 - 1.1						X	X
	1.9 - 2.0							
	CBH04 - 0.0 - 0.2						X	X
	0.5 - 0.6							
	1.0 - 1.1							
	1.9 - 2.0						X	X
	CBHC5 - 0.0 - 0.2						X	X
	0.5 - 0.6						X	X

Date/Time: 19/3/20 1.10

Chilled: Yes/No

Temp: 11.1 16.8 11.0

Correction: -0.3

Final Temp: 12.4.

NOTES

Environmental Division Sydney

Work Order Reference

ES2009982

Telephone : + 61-2-8784 8555

RELINQUISHED BY

Name: SEAN BLACKFORD Date: 19.03.20

Coffey Environments Time: 1400

Name: Date:

Company: Time:

RECEIVED BY

Name: K.ROLA Date: 19/3/20

Company: Time: 2pm.

Name: Chris Redfern Date: 23/3/20

Company: ALS Gows Nest Time: 13:30

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☑

All Documentation is in Proper Order ☑

Samples Received Properly Chilled ☑

Lab. Ref/Batch No. 708902

*Container Type & Preservation Codes: P - Plastic, G- Glass Bottle, J - Glass Jar, V- Vial, Z - Ziplock Bag, N - Nitric Acid Preserved, C - Hydrochloric Acid Preserved, S - Sulphuric Acid Preserved, I - Ice, ST - Sodium Thiosulfate, NP - No Preservative, OP - Other Preservative

T: 16.2°C

rec: FAN 23/3/20 3:39p

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

 5915

coffey

Consigning Office:

Report Results to: — Mobile: — Email: @coffey.com

Invoices to: 1 of 3 Phone: Email: @coffey.com

Project No: Task No:

Project Name: Laboratory: page 1

Analysis Request Section

Special Instructions:

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	SUITE A	SUITE B	SUITE C	NOTES
	CBH1C - 0.0 - 0.2	18/3		Soil	J	Std	X	X		
	0.5 - 0.6						X	X		
	1.0 - 1.1									
	1.9 - 2.0									
	QC1									
1	QC2						X	X		SEND TO ALS (5-16)
	QC3									
2	QC4						X	X		SEND TO ALS (5-16)
	TS				VX2				X	

RELINQUISHED BY			RECEIVED BY		
Name: Sean Blackford	Date: 19/3/20	→	Name: K. Foley	Date: K Foley 19/3/20	
Coffey Environments	Time:		Company:	Time: 2pm	
Name:	Date:	→	Name:	Date:	
Company:	Time:		Company:	Time:	

Sample Receipt Advice: (Lab Use Only)

- All Samples Recieved in Good Condition ☑
- All Documentation is in Proper Order ☑
- Samples Received Properly Chilled ☑
- Lab. Ref/Batch No.

***Container Type & Preservation Codes:** **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock Bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, **S** - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative, **OP** - Other Preservative

ALS Environmental

CERTIFICATE OF ANALYSIS

Work Order	: **ES2011397**	Page	: 1 of 7
Client	: **COFFEY ENVIRONMENTS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SEAN BLACKFORD	Contact	: Customer Services ES
Address	: LEVEL 19, 799 PACIFIC HIGHWAY Tower B - Citadel Tower CHATSWOOD NSW, AUSTRALIA 2067	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9406 1000	Telephone	: +61-2-8784 8555
Project	: NTLEN272413	Date Samples Received	: 02-Apr-2020 13:51
Order number	: ----	Date Analysis Commenced	: 03-Apr-2020
C-O-C number	: ----	Issue Date	: 09-Apr-2020 18:16
Sampler	: SEAN BLACKFORD		
Site	:		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contact for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- Benzo(a)pyrene Toxicity Equivalent Quotient (TEQ) per the NEPM (2013) is the sum total of the concentration of the eight carcinogenic PAHs multiplied by their Toxicity Equivalence Factor (TEF) relative to Benzo(a)pyrene. TEF values are provided in brackets as follows: Benz(a)anthracene (0.1), Chrysene (0.01), Benzo(b+j) & Benzo(k)fluoranthene (0.1), Benzo(a)pyrene (1.0), Indeno(1.2.3.cd)pyrene (0.1), Dibenz(a.h)anthracene (1.0), Benzo(g.h.i)perylene (0.01). Less than LOR results for 'TEQ Zero' are treated as zero.
- EG035: Positive Hg result for ERS2011397 #1 has been confirmed by reanalysis.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	QC2	----	----	----	----
				Client sampling date / time	30-Mar-2020 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2011397-001	--------	--------	--------	--------
					Result	----	----	----	----
EG020T: Total Metals by ICP-MS									
Arsenic	7440-38-2	0.001	mg/L		**0.040**	----	----	----	----
Cadmium	7440-43-9	0.0001	mg/L		**0.0012**	----	----	----	----
Chromium	7440-47-3	0.001	mg/L		**0.163**	----	----	----	----
Copper	7440-50-8	0.001	mg/L		**0.174**	----	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.132**	----	----	----	----
Lead	7439-92-1	0.001	mg/L		**0.305**	----	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.842**	----	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		**0.0003**	----	----	----	----
EP066: Polychlorinated Biphenyls (PCB)									
^ **Total Polychlorinated biphenyls**	----	1	µg/L		<1	----	----	----	----
EP068A: Organochlorine Pesticides (OC)									
alpha-BHC	319-84-6	0.5	µg/L		<0.5	----	----	----	----
Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L		<0.5	----	----	----	----
beta-BHC	319-85-7	0.5	µg/L		<0.5	----	----	----	----
gamma-BHC	58-89-9	0.5	µg/L		<0.5	----	----	----	----
delta-BHC	319-86-8	0.5	µg/L		<0.5	----	----	----	----
Heptachlor	76-44-8	0.5	µg/L		<0.5	----	----	----	----
Aldrin	309-00-2	0.5	µg/L		<0.5	----	----	----	----
Heptachlor epoxide	1024-57-3	0.5	µg/L		<0.5	----	----	----	----
trans-Chlordane	5103-74-2	0.5	µg/L		<0.5	----	----	----	----
alpha-Endosulfan	959-98-8	0.5	µg/L		<0.5	----	----	----	----
cis-Chlordane	5103-71-9	0.5	µg/L		<0.5	----	----	----	----
Dieldrin	60-57-1	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDE	72-55-9	0.5	µg/L		<0.5	----	----	----	----
Endrin	72-20-8	0.5	µg/L		<0.5	----	----	----	----
beta-Endosulfan	33213-65-9	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDD	72-54-8	0.5	µg/L		<0.5	----	----	----	----
Endrin aldehyde	7421-93-4	0.5	µg/L		<0.5	----	----	----	----
Endosulfan sulfate	1031-07-8	0.5	µg/L		<0.5	----	----	----	----
4.4`-DDT	50-29-3	2.0	µg/L		<2.0	----	----	----	----
Endrin ketone	53494-70-5	0.5	µg/L		<0.5	----	----	----	----
Methoxychlor	72-43-5	2.0	µg/L		<2.0	----	----	----	----
^ **Total Chlordane (sum)**	----	0.5	µg/L		<0.5	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	QC2	----	----	----	----
				Client sampling date / time	30-Mar-2020 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2011397-001	--------	--------	--------	--------
					Result	----	----	----	----
EP068A: Organochlorine Pesticides (OC) - Continued									
^ Sum of DDD + DDE + DDT	72-54-8/72-55-9/50-2	0.5	µg/L		<0.5	----	----	----	----
^ Sum of Aldrin + Dieldrin	309-00-2/60-57-1	0.5	µg/L		<0.5	----	----	----	----
EP068B: Organophosphorus Pesticides (OP)									
Dichlorvos	62-73-7	0.5	µg/L		<0.5	----	----	----	----
Demeton-S-methyl	919-86-8	0.5	µg/L		<0.5	----	----	----	----
Monocrotophos	6923-22-4	2.0	µg/L		<2.0	----	----	----	----
Dimethoate	60-51-5	0.5	µg/L		<0.5	----	----	----	----
Diazinon	333-41-5	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos-methyl	5598-13-0	0.5	µg/L		<0.5	----	----	----	----
Parathion-methyl	298-00-0	2.0	µg/L		<2.0	----	----	----	----
Malathion	121-75-5	0.5	µg/L		<0.5	----	----	----	----
Fenthion	55-38-9	0.5	µg/L		<0.5	----	----	----	----
Chlorpyrifos	2921-88-2	0.5	µg/L		<0.5	----	----	----	----
Parathion	56-38-2	2.0	µg/L		<2.0	----	----	----	----
Pirimphos-ethyl	23505-41-1	0.5	µg/L		<0.5	----	----	----	----
Chlorfenvinphos	470-90-6	0.5	µg/L		<0.5	----	----	----	----
Bromophos-ethyl	4824-78-6	0.5	µg/L		<0.5	----	----	----	----
Fenamiphos	22224-92-6	0.5	µg/L		<0.5	----	----	----	----
Prothiofos	34643-46-4	0.5	µg/L		<0.5	----	----	----	----
Ethion	563-12-2	0.5	µg/L		<0.5	----	----	----	----
Carbophenothion	786-19-6	0.5	µg/L		<0.5	----	----	----	----
Azinphos Methyl	86-50-0	0.5	µg/L		<0.5	----	----	----	----
EP075(SIM)A: Phenolic Compounds									
Phenol	108-95-2	1.0	µg/L		<1.0	----	----	----	----
2-Chlorophenol	95-57-8	1.0	µg/L		<1.0	----	----	----	----
2-Methylphenol	95-48-7	1.0	µg/L		<1.0	----	----	----	----
3- & 4-Methylphenol	1319-77-3	2.0	µg/L		<2.0	----	----	----	----
2-Nitrophenol	88-75-5	1.0	µg/L		<1.0	----	----	----	----
2.4-Dimethylphenol	105-67-9	1.0	µg/L		<1.0	----	----	----	----
2.4-Dichlorophenol	120-83-2	1.0	µg/L		<1.0	----	----	----	----
2.6-Dichlorophenol	87-65-0	1.0	µg/L		<1.0	----	----	----	----
4-Chloro-3-methylphenol	59-50-7	1.0	µg/L		<1.0	----	----	----	----
2.4.6-Trichlorophenol	88-06-2	1.0	µg/L		<1.0	----	----	----	----
2.4.5-Trichlorophenol	95-95-4	1.0	µg/L		<1.0	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	QC2	----	----	----	----
				Client sampling date / time	30-Mar-2020 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2011397-001	--------	--------	--------	--------
					Result	----	----	----	----
EP075(SIM)A: Phenolic Compounds - Continued									
Pentachlorophenol	87-86-5	2.0	µg/L		<2.0	----	----	----	----
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons									
Naphthalene	91-20-3	1.0	µg/L		<1.0	----	----	----	----
Acenaphthylene	208-96-8	1.0	µg/L		<1.0	----	----	----	----
Acenaphthene	83-32-9	1.0	µg/L		<1.0	----	----	----	----
Fluorene	86-73-7	1.0	µg/L		<1.0	----	----	----	----
Phenanthrene	85-01-8	1.0	µg/L		<1.0	----	----	----	----
Anthracene	120-12-7	1.0	µg/L		<1.0	----	----	----	----
Fluoranthene	206-44-0	1.0	µg/L		<1.0	----	----	----	----
Pyrene	129-00-0	1.0	µg/L		<1.0	----	----	----	----
Benz(a)anthracene	56-55-3	1.0	µg/L		<1.0	----	----	----	----
Chrysene	218-01-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(b+j)fluoranthene	205-99-2 205-82-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(k)fluoranthene	207-08-9	1.0	µg/L		<1.0	----	----	----	----
Benzo(a)pyrene	50-32-8	0.5	µg/L		<0.5	----	----	----	----
Indeno(1.2.3.cd)pyrene	193-39-5	1.0	µg/L		<1.0	----	----	----	----
Dibenz(a.h)anthracene	53-70-3	1.0	µg/L		<1.0	----	----	----	----
Benzo(g.h.i)perylene	191-24-2	1.0	µg/L		<1.0	----	----	----	----
^ **Sum of polycyclic aromatic hydrocarbons**	----	0.5	µg/L		<0.5	----	----	----	----
^ **Benzo(a)pyrene TEQ (zero)**	----	0.5	µg/L		<0.5	----	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	----	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	----	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	----	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	----	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	----	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	----	----	----	----
>C10 - C16 Fraction	----	100	µg/L		<100	----	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	----	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	----	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Client sample ID	QC2	----	----	----	----
				Client sampling date / time	30-Mar-2020 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit		ES2011397-001	--------	--------	--------	--------
					Result	----	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	----	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	----	----	----	----
Toluene	108-88-3	2	µg/L		<2	----	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	----	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	----	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	----	----	----	----
^ Total Xylenes	----	2	µg/L		<2	----	----	----	----
^ Sum of BTEX	----	1	µg/L		<1	----	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	----	----	----	----
EP066S: PCB Surrogate									
Decachlorobiphenyl	2051-24-3	1	%		**74.3**	----	----	----	----
EP068S: Organochlorine Pesticide Surrogate									
Dibromo-DDE	21655-73-2	0.5	%		**76.5**	----	----	----	----
EP068T: Organophosphorus Pesticide Surrogate									
DEF	78-48-8	0.5	%		**72.9**	----	----	----	----
EP075(SIM)S: Phenolic Compound Surrogates									
Phenol-d6	13127-88-3	1.0	%		**24.5**	----	----	----	----
2-Chlorophenol-D4	93951-73-6	1.0	%		**52.7**	----	----	----	----
2.4.6-Tribromophenol	118-79-6	1.0	%		**62.6**	----	----	----	----
EP075(SIM)T: PAH Surrogates									
2-Fluorobiphenyl	321-60-8	1.0	%		**72.2**	----	----	----	----
Anthracene-d10	1719-06-8	1.0	%		**75.4**	----	----	----	----
4-Terphenyl-d14	1718-51-0	1.0	%		**78.1**	----	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**102**	----	----	----	----
Toluene-D8	2037-26-5	2	%		**110**	----	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**112**	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**

Compound	CAS Number	Recovery Limits (%) Low	High
EP066S: PCB Surrogate			
Decachlorobiphenyl	2051-24-3	29	129
EP068S: Organochlorine Pesticide Surrogate			
Dibromo-DDE	21655-73-2	67	111
EP068T: Organophosphorus Pesticide Surrogate			
DEF	78-48-8	67	111
EP075(SIM)S: Phenolic Compound Surrogates			
Phenol-d6	13127-88-3	10	44
2-Chlorophenol-D4	93951-73-6	14	94
2.4.6-Tribromophenol	118-79-6	17	125
EP075(SIM)T: PAH Surrogates			
2-Fluorobiphenyl	321-60-8	20	104
Anthracene-d10	1719-06-8	27	113
4-Terphenyl-d14	1718-51-0	32	112
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128

QUALITY CONTROL REPORT

Work Order	: **ES2011397**	Page	: 1 of 7
Client	: **COFFEY ENVIRONMENTS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SEAN BLACKFORD	Contact	: Customer Services ES
Address	: LEVEL 19, 799 PACIFIC HIGHWAY Tower B - Citadel Tower CHATSWOOD NSW, AUSTRALIA 2067	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: +61 02 9406 1000	Telephone	: +61-2-8784 8555
Project	: NTLEN272413	Date Samples Received	: 02-Apr-2020
Order number	: ----	Date Analysis Commenced	: 03-Apr-2020
C-O-C number	: ----	Issue Date	: 09-Apr-2020
Sampler	: SEAN BLACKFORD		
Site	:		
Quote number	: EN/222		
No. of samples received	: 1		
No. of samples analysed	: 1		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Celine Conceicao	Senior Spectroscopist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 2952841)									
ES2011331-011	Anonymous	EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.00	No Limit
ES2011358-003	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.026	0.023	13.3	0% - 20%
		EG020A-T: Lead	7439-92-1	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.001	<0.001	0.00	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.046	0.040	15.3	No Limit
ES2011331-011	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.00	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.00	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.001	0.008	135	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.00	No Limit
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 2952866)									
ES2011331-011	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
ES2011374-005	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.00	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 2952050)									
ES2011354-001	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
ES2011354-011	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.00	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 2952050)									
ES2011354-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
ES2011354-011	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.00	No Limit
EP080: BTEXN (QC Lot: 2952050)									

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Client sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Recovery Limits (%)*
EP080: BTEXN (QC Lot: 2952050) - continued									
ES2011354-001	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit
ES2011354-011	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.00	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.00	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.00	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.00	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.00	No Limit

Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Spike (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 2952841)								
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	95.4	82.0	114
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	97.0	84.0	112
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	96.2	86.0	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	93.5	83.0	118
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	91.4	85.0	115
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	92.1	84.0	116
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	99.3	79.0	117
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2952866)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	94.0	77.0	111
EP066: Polychlorinated Biphenyls (PCB) (QCLot: 2952573)								
EP066: Total Polychlorinated biphenyls	----	1	µg/L	<1	10 µg/L	80.0	61.6	107
EP068A: Organochlorine Pesticides (OC) (QCLot: 2952572)								
EP068: alpha-BHC	319-84-6	0.5	µg/L	<0.5	5 µg/L	80.9	64.9	107
EP068: Hexachlorobenzene (HCB)	118-74-1	0.5	µg/L	<0.5	5 µg/L	77.8	58.3	111
EP068: beta-BHC	319-85-7	0.5	µg/L	<0.5	5 µg/L	99.6	69.0	117
EP068: gamma-BHC	58-89-9	0.5	µg/L	<0.5	5 µg/L	104	70.0	112
EP068: delta-BHC	319-86-8	0.5	µg/L	<0.5	5 µg/L	90.2	68.9	110
EP068: Heptachlor	76-44-8	0.5	µg/L	<0.5	5 µg/L	84.3	65.2	108
EP068: Aldrin	309-00-2	0.5	µg/L	<0.5	5 µg/L	79.6	65.8	109
EP068: Heptachlor epoxide	1024-57-3	0.5	µg/L	<0.5	5 µg/L	84.0	67.1	107
EP068: trans-Chlordane	5103-74-2	0.5	µg/L	<0.5	5 µg/L	86.2	64.1	110
EP068: alpha-Endosulfan	959-98-8	0.5	µg/L	<0.5	5 µg/L	86.7	66.7	112
EP068: cis-Chlordane	5103-71-9	0.5	µg/L	<0.5	5 µg/L	86.2	63.2	111
EP068: Dieldrin	60-57-1	0.5	µg/L	<0.5	5 µg/L	87.5	65.2	113
EP068: 4.4`-DDE	72-55-9	0.5	µg/L	<0.5	5 µg/L	86.4	66.0	112
EP068: Endrin	72-20-8	0.5	µg/L	<0.5	5 µg/L	88.8	65.2	113
EP068: beta-Endosulfan	33213-65-9	0.5	µg/L	<0.5	5 µg/L	90.1	67.3	114
EP068: 4.4`-DDD	72-54-8	0.5	µg/L	<0.5	5 µg/L	98.6	72.0	122
EP068: Endrin aldehyde	7421-93-4	0.5	µg/L	<0.5	5 µg/L	91.1	66.9	109
EP068: Endosulfan sulfate	1031-07-8	0.5	µg/L	<0.5	5 µg/L	103	65.2	112
EP068: 4.4`-DDT	50-29-3	2	µg/L	<2.0	5 µg/L	98.5	65.2	112
EP068: Endrin ketone	53494-70-5	0.5	µg/L	<0.5	5 µg/L	101	63.8	110
EP068: Methoxychlor	72-43-5	2	µg/L	<2.0	5 µg/L	96.0	61.1	114
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2952572)								

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP068B: Organophosphorus Pesticides (OP) (QCLot: 2952572) - continued								
EP068: Dichlorvos	62-73-7	0.5	µg/L	<0.5	5 µg/L	96.9	65.6	114
EP068: Demeton-S-methyl	919-86-8	0.5	µg/L	<0.5	5 µg/L	88.8	63.7	113
EP068: Monocrotophos	6923-22-4	2	µg/L	<2.0	5 µg/L	25.7	19.7	48.0
EP068: Dimethoate	60-51-5	0.5	µg/L	<0.5	5 µg/L	103	69.5	110
EP068: Diazinon	333-41-5	0.5	µg/L	<0.5	5 µg/L	97.6	71.1	110
EP068: Chlorpyrifos-methyl	5598-13-0	0.5	µg/L	<0.5	5 µg/L	94.8	77.0	119
EP068: Parathion-methyl	298-00-0	2	µg/L	<2.0	5 µg/L	100	70.0	124
EP068: Malathion	121-75-5	0.5	µg/L	<0.5	5 µg/L	104	68.4	116
EP068: Fenthion	55-38-9	0.5	µg/L	<0.5	5 µg/L	91.6	68.6	112
EP068: Chlorpyrifos	2921-88-2	0.5	µg/L	<0.5	5 µg/L	89.2	75.0	119
EP068: Parathion	56-38-2	2	µg/L	<2.0	5 µg/L	92.5	67.0	121
EP068: Pirimphos-ethyl	23505-41-1	0.5	µg/L	<0.5	5 µg/L	86.0	69.0	121
EP068: Chlorfenvinphos	470-90-6	0.5	µg/L	<0.5	5 µg/L	88.4	71.8	110
EP068: Bromophos-ethyl	4824-78-6	0.5	µg/L	<0.5	5 µg/L	83.1	67.5	112
EP068: Fenamiphos	22224-92-6	0.5	µg/L	<0.5	5 µg/L	92.9	64.1	116
EP068: Prothiofos	34643-46-4	0.5	µg/L	<0.5	5 µg/L	89.3	67.8	114
EP068: Ethion	563-12-2	0.5	µg/L	<0.5	5 µg/L	93.1	74.0	120
EP068: Carbophenothion	786-19-6	0.5	µg/L	<0.5	5 µg/L	100	66.2	114
EP068: Azinphos Methyl	86-50-0	0.5	µg/L	<0.5	5 µg/L	104	51.6	128
EP075(SIM)A: Phenolic Compounds (QCLot: 2952570)								
EP075(SIM): Phenol	108-95-2	1	µg/L	<1.0	5 µg/L	38.4	24.5	61.9
EP075(SIM): 2-Chlorophenol	95-57-8	1	µg/L	<1.0	5 µg/L	72.6	52.0	90.0
EP075(SIM): 2-Methylphenol	95-48-7	1	µg/L	<1.0	5 µg/L	73.7	51.0	91.0
EP075(SIM): 3- & 4-Methylphenol	1319-77-3	2	µg/L	<2.0	10 µg/L	67.3	44.0	88.0
EP075(SIM): 2-Nitrophenol	88-75-5	1	µg/L	<1.0	5 µg/L	77.3	48.0	100
EP075(SIM): 2.4-Dimethylphenol	105-67-9	1	µg/L	<1.0	5 µg/L	77.7	49.0	99.0
EP075(SIM): 2.4-Dichlorophenol	120-83-2	1	µg/L	<1.0	5 µg/L	75.6	53.0	105
EP075(SIM): 2.6-Dichlorophenol	87-65-0	1	µg/L	<1.0	5 µg/L	78.0	57.0	105
EP075(SIM): 4-Chloro-3-methylphenol	59-50-7	1	µg/L	<1.0	5 µg/L	68.6	53.0	99.0
EP075(SIM): 2.4.6-Trichlorophenol	88-06-2	1	µg/L	<1.0	5 µg/L	77.8	50.0	106
EP075(SIM): 2.4.5-Trichlorophenol	95-95-4	1	µg/L	<1.0	5 µg/L	84.6	51.0	105
EP075(SIM): Pentachlorophenol	87-86-5	2	µg/L	<2.0	10 µg/L	41.7	10.0	95.0
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2952570)								
EP075(SIM): Naphthalene	91-20-3	1	µg/L	<1.0	5 µg/L	74.6	50.0	94.0
EP075(SIM): Acenaphthylene	208-96-8	1	µg/L	<1.0	5 µg/L	72.6	63.6	114
EP075(SIM): Acenaphthene	83-32-9	1	µg/L	<1.0	5 µg/L	82.2	62.2	113
EP075(SIM): Fluorene	86-73-7	1	µg/L	<1.0	5 µg/L	77.4	63.9	115
EP075(SIM): Phenanthrene	85-01-8	1	µg/L	<1.0	5 µg/L	97.0	62.6	116
EP075(SIM): Anthracene	120-12-7	1	µg/L	<1.0	5 µg/L	82.2	64.3	116

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Recovery Limits (%)	
				Result	Concentration	LCS	Low	High
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons (QCLot: 2952570) - continued								
EP075(SIM): Fluoranthene	206-44-0	1	µg/L	<1.0	5 µg/L	94.2	63.6	118
EP075(SIM): Pyrene	129-00-0	1	µg/L	<1.0	5 µg/L	91.2	63.1	118
EP075(SIM): Benz(a)anthracene	56-55-3	1	µg/L	<1.0	5 µg/L	92.1	64.1	117
EP075(SIM): Chrysene	218-01-9	1	µg/L	<1.0	5 µg/L	92.3	62.5	116
EP075(SIM): Benzo(b+j)fluoranthene	205-99-2 205-82-3	1	µg/L	<1.0	5 µg/L	85.0	61.7	119
EP075(SIM): Benzo(k)fluoranthene	207-08-9	1	µg/L	<1.0	5 µg/L	92.4	63.0	115
EP075(SIM): Benzo(a)pyrene	50-32-8	0.5	µg/L	<0.5	5 µg/L	95.6	63.3	117
EP075(SIM): Indeno(1.2.3.cd)pyrene	193-39-5	1	µg/L	<1.0	5 µg/L	88.6	59.9	118
EP075(SIM): Dibenz(a.h)anthracene	53-70-3	1	µg/L	<1.0	5 µg/L	87.8	61.2	117
EP075(SIM): Benzo(g.h.i)perylene	191-24-2	1	µg/L	<1.0	5 µg/L	92.5	59.1	118
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2952050)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	260 µg/L	84.3	75.0	127
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2952571)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	400 µg/L	72.9	55.8	112
EP071: C15 - C28 Fraction	----	100	µg/L	<100	600 µg/L	88.8	71.6	113
EP071: C29 - C36 Fraction	----	50	µg/L	<50	400 µg/L	81.3	56.0	121
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2952050)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	310 µg/L	87.5	75.0	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2952571)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	500 µg/L	93.2	57.9	119
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	700 µg/L	73.6	62.5	110
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	300 µg/L	94.8	61.5	121
EP080: BTEXN (QCLot: 2952050)								
EP080: Benzene	71-43-2	1	µg/L	<1	10 µg/L	94.0	70.0	122
EP080: Toluene	108-88-3	2	µg/L	<2	10 µg/L	94.9	69.0	123
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	10 µg/L	98.1	70.0	120
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	10 µg/L	97.7	69.0	121
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	10 µg/L	101	72.0	122
EP080: Naphthalene	91-20-3	5	µg/L	<5	10 µg/L	106	70.0	120

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Matrix Spike (MS) Report		
Spike	SpikeRecovery(%)	Recovery Limits (%)

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Recovery Limits (%)	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 2952841)							
ES2011331-010	Anonymous	EG020A-T: Arsenic	7440-38-2	1 mg/L	91.1	70.0	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	94.3	70.0	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	107	70.0	130
		EG020A-T: Copper	7440-50-8	1 mg/L	101	70.0	130
		EG020A-T: Lead	7439-92-1	1 mg/L	111	70.0	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	102	70.0	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	85.2	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 2952866)							
ES2011334-001	Anonymous	EG035T: Mercury	7439-97-6	0.01 mg/L	70.6	70.0	130
EP080/071: Total Petroleum Hydrocarbons (QCLot: 2952050)							
ES2011354-001	Anonymous	EP080: C6 - C9 Fraction	----	325 µg/L	108	70.0	130
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 2952050)							
ES2011354-001	Anonymous	EP080: C6 - C10 Fraction	C6_C10	375 µg/L	106	70.0	130
EP080: BTEXN (QCLot: 2952050)							
ES2011354-001	Anonymous	EP080: Benzene	71-43-2	25 µg/L	105	70.0	130
		EP080: Toluene	108-88-3	25 µg/L	100	70.0	130
		EP080: Ethylbenzene	100-41-4	25 µg/L	102	70.0	130
		EP080: meta- & para-Xylene	108-38-3 106-42-3	25 µg/L	99.9	70.0	130
		EP080: ortho-Xylene	95-47-6	25 µg/L	103	70.0	130
		EP080: Naphthalene	91-20-3	25 µg/L	86.0	70.0	130

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2011397**	Page	: 1 of 5
Client	: **COFFEY ENVIRONMENTS PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: SEAN BLACKFORD	Telephone	: +61-2-8784 8555
Project	: NTLEN272413	Date Samples Received	: 02-Apr-2020
Site	:	Issue Date	: 09-Apr-2020
Sampler	: SEAN BLACKFORD	No. of samples received	: 1
Order number	: ----	No. of samples analysed	: 1

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
PAH/Phenols (GC/MS - SIM)	0	9	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	1	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	3	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)					
PAH/Phenols (GC/MS - SIM)	0	9	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	0	1	0.00	5.00	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	0	3	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / ***Container*** / *Client Sample ID(s)*	***Sample Date***	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	***Date analysed***	*Due for analysis*	*Evaluation*
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020A-T)							
QC2	**30-Mar-2020**	**03-Apr-2020**	26-Sep-2020	✓	**03-Apr-2020**	26-Sep-2020	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
QC2	**30-Mar-2020**	**----**	----	----	**03-Apr-2020**	27-Apr-2020	✓
EP066: Polychlorinated Biphenyls (PCB)							
Amber Glass Bottle - Unpreserved (EP066)							
QC2	**30-Mar-2020**	**03-Apr-2020**	06-Apr-2020	✓	**03-Apr-2020**	13-May-2020	✓
EP068A: Organochlorine Pesticides (OC)							
Amber Glass Bottle - Unpreserved (EP068)							
QC2	**30-Mar-2020**	**03-Apr-2020**	06-Apr-2020	✓	**03-Apr-2020**	13-May-2020	✓
EP068B: Organophosphorus Pesticides (OP)							
Amber Glass Bottle - Unpreserved (EP068)							
QC2	**30-Mar-2020**	**03-Apr-2020**	06-Apr-2020	✓	**03-Apr-2020**	13-May-2020	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP075(SIM)A: Phenolic Compounds							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
QC2	**30-Mar-2020**	**03-Apr-2020**	06-Apr-2020	✓	**03-Apr-2020**	13-May-2020	✓
EP075(SIM)B: Polynuclear Aromatic Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP075(SIM))							
QC2	**30-Mar-2020**	**03-Apr-2020**	06-Apr-2020	✓	**03-Apr-2020**	13-May-2020	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
QC2	**30-Mar-2020**	**03-Apr-2020**	06-Apr-2020	✓	**03-Apr-2020**	13-May-2020	✓
Clear glass VOC vial - HCl (EP080)							
QC2	**30-Mar-2020**	**06-Apr-2020**	13-Apr-2020	✓	**06-Apr-2020**	13-Apr-2020	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
QC2	**30-Mar-2020**	**03-Apr-2020**	06-Apr-2020	✓	**03-Apr-2020**	13-May-2020	✓
Clear glass VOC vial - HCl (EP080)							
QC2	**30-Mar-2020**	**06-Apr-2020**	13-Apr-2020	✓	**06-Apr-2020**	13-Apr-2020	✓
EP080: BTEXN							
Clear glass VOC vial - HCl (EP080)							
QC2	**30-Mar-2020**	**06-Apr-2020**	13-Apr-2020	✓	**06-Apr-2020**	13-Apr-2020	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	9	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	1	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	3	14	**21.43**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	3	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	1	1	**100.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	3	**33.33**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	0	9	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Pesticides by GCMS	EP068	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Polychlorinated Biphenyls (PCB)	EP066	0	1	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	3	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to AS 3550, APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Polychlorinated Biphenyls (PCB)	EP066	WATER	In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
Pesticides by GCMS	EP068	WATER	In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015A The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)
PAH/Phenols (GC/MS - SIM)	EP075(SIM)	WATER	In house: Referenced to USEPA SW 846 - 8270D Sample extracts are analysed by Capillary GC/MS in SIM Mode and quantification is by comparison against an established 5 point calibration curve. This method is compliant with NEPM (2013) Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260B Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM (2013) Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM (2013) Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510B 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM (2013) Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for sparging.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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coffey

Consigning Office: WARNBROOK

Report Results to: SEAN BLACKFORD — Mobile: 0418 549 796 — Email: Sean.blackford@coffey.com

Invoices to: GEN ADMIN — Phone: — Email: @coffey.com

Project No: NTLEN272413 — Task No: LAB

Project Name: — Laboratory: MCT

Sampler's Name: S.BLACKFORD — Project Manager: S. BLACKFORD

Special Instructions: Std T.A.T

Lab No.	Sample ID	Sample Date	Time	Matrix (Soil...etc)	Container Type & Preservative*	T-A-T (specify)	SUITE B7	SUITE B15	SUITE B1
	MW01	30/3	PM	WATER	C, Vx2, Px2	Std	X	X	
	MW02						X	X	
	MW03						X	X	
(1)	QC1						X	X	
	QC2				Vx2		X	X	
	TB						X	X	
	TS						X	X	X

HT

NOTES

SEND (QC2) TO ALS - (1)

CHANGE * PLEASE ✓ NAME SAMPLES MW001 TO MW01 PLEASE.

(WRITTEN AS MW001 ON CONTAINERS)

Environmental Division Sydney
Work Order Reference
ES2011397

Telephone : +61-2-8784 8555

RELINQUISHED BY

Name: SEAN.BLACKFORD — Date: 31/3/20 →
Coffey Environments — Time:

Name: — Date: →
Company: — Time:

RECEIVED BY

Name: K. Foley — Date: 31/3/20
Company: EUROFINS NTL. — Time: 3pm. 11.2°C

Name: CHRIS R — Date: 2/4/20
Company: ALS Crows Nest — Time: 13:45 14.1°C

Sample Receipt Advice: (Lab Use Only)

All Samples Recieved in Good Condition ☐
All Documentation is in Proper Order ☐
Samples Received Properly Chilled ☐
Lab. Ref/Batch No.

*Container Type & Preservation Codes: **P** - Plastic, **G**- Glass Bottle, **J** - Glass Jar, **V**- Vial, **Z** - Ziplock Bag, **N** - Nitric Acid Preserved, **C** - Hydrochloric Acid Preserved, - Sulphuric Acid Preserved, **I** - Ice, **ST** - Sodium Thiosulfate, **NP** - No Preservative, **OP** - Other Preservative

ey Environments

Version: 5

ree. FAD: 2/4/20 3:45

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