Infrastructure NSW

Sediment Characterisation Assessment

The new Sydney Fish Market
1A to 1C Bridge Rd, Glebe NSW

12 January 2021

60081/134799 (Rev B)

JBS&G Australia Pty Ltd

www.jbsg.com.au

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Executive Summary

JBS&G Australia Pty Ltd (JBS&G) was engaged by Infrastructure NSW (iNSW, the client) to complete a sediment characterisation assessment at a portion of the proposed new Sydney Fish Market (nSFM) located at the head of Blackwattle Bay between the Pyrmont Peninsula and the foreshore of Glebe (the site). The nSFM site is legally identified as Lots 3-5 in DP 1064339, part Lot 107 in DP 1076596 and part Lot 1 in DP835794 as shown on **Figures 1** and **2**.

It is understood that during recent demolition works for the former Hanson Wharf, sediments deposits additional to those anticipated during project planning were identified beneath the wharf footprint. As such, further site characterisation information is required to enable decision making with regard to requirements for management, potentially including relocation/removal of the sediment to enable construction of the nSFM development. In addition, consideration has also been given to the requirements for characterisation of sediment at the Site in accordance with the requirements of both the Acid Sulfate Soil Management Plan (JBS&G 2019[1]) and the Remedial Action Plan (JBS&G 2020[2]) to inform appropriate management procedures during the proposed construction works.

Based on the results of the sediment characterisation assessment and subject to the limitations in **Section 10**, the following summarises the outcomes of the assessment:

- The data obtained is considered reliable to meet the objectives of the assessment;
- Sediment sampling was conducted within the envelope of additional sediment identified beneath the former Hanson Wharf footprint in order to appropriately characterise the additional sediments for the identified COPCs and PASS characteristics at a sampling density consistent with EPA (1995) and the ASSMP (JBS&G 2019).
- The materials were observed to be largely consistent (visually) across each sampling location to the maximum depth of the investigation (2.2 m) to an average depth of 0.9 m. The materials comprised of gravelly, clayey silt (mud), with varying levels of inclusions that included coal, ash, organic material, sea shells and metal fragments.
- Representative samples of the materials were analysed for a range of identified potential contaminants of concern including heavy metals, PAHs, TRH, BTEX, VOCs, OCP/PCBs, TBT and asbestos. As consistent with the balance of the site and wider Blackwattle Bay area, elevated heavy metals, PAHs and TRH were reported in sediments across the extent of the investigation footprint. The impacts of these compounds are considered to be comparable to, and/or less than the corresponding impacts from historical investigations completed over the balance of the site. There were no reported detections of VOCs (including BTEX), OCPs or PCBs within the materials assessed herein. In addition, there no unacceptable risks identified with respect to the reported concentrations of TBT and asbestos. As such, it is considered that there were no identified impacts within the sediments assessed herein that would preclude the materials from been retained on-site.
- Based on the results of the investigation, all sediments encountered as part of this investigation comprise of PASS and require appropriate management and treatment during future works that result in their disturbance.

[1] *Acid Sulfate Soil Management Plan. The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW*. JBS&G Australia Pty Ltd, 4 April 2019 (JBS&G 2019)

[2] *Remedial Action Plan. The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW*. JBS&G Australia Pty Ltd, 8 July April 2020 (JBS&G 2020)

- Should the materials be disposed off-site, it is anticipated that the materials will be classified as General Solid Waste (GSW) or Restricted Solid Waste (RSW) potentially mixed with Special (asbestos) Waste owing to the trace levels of asbestos reported at SFM01 0-1, SFM04 0-0.4 and SFM07 0-1.

  The materials classified as RSW are represented by samples SFM01 1.0-1.1, SFM07 1.5-1.6 and SFM13 1.0-1.1 in which the reported total lead concentrations are above the SCC1 threshold value.

  Based on the observation of ash and coal within the sediments, it is considered that the *General Approval of the Immobilisation of Contaminants in Waste* (EPA 1999) may be applied for PAH impacts within the materials, where TCLP analysis identified that these compounds are non-leachable and immobilised within the ash/coal matrices.

  Given the reported organotin concentrations identified in sediment samples, liaison with the NSW EPA will be required to finalise waste classifications for off-site disposal of fill material.

  Further, noting that all sediments assessed herein comprise Potential Acid Sulfate Soils (PASS), the materials will require to be disposed of in accordance with the NSW *Waste Classification Guidelines, Part 4 Acid Sulfate Soils* (EPA 2014b).

  In summary, based on assessment of the current data, if it is proposed to remove the excess sediment material from the site, the following would be required to finalise a waste classification in accordance with EPA requirements:

  - Stabilisation of the material's PASS characteristics, as per the advice provided in the ASSMP (JBS&G 2019);
  - Characterisation on a batch basis of chemical contaminants identified to be associated with the material, including heavy metals, PAHs, TRH, TBT and asbestos, with consideration of the coal/ash inclusions in the material with regard to the EPA (1995) immobilisation order. Based on the current data set, it is anticipated material may fall within GSW or RSW categories with the potential to be mixed with Special (asbestos) waste;
  - Liaison with NSW EPA where TBT concentrations are detected in samples to confirm classification/disposal requirements under the CCO (1989); and
  - Preparation of a final waste classification report for submission to the proposed licensed waste facility to confirm approval to dispose of the material, prior to commencement of transportation.

- Based on the results and findings of this assessment, it is considered that the sediment materials assessed herein are suitable for on-site retention within the framework outlined in the RAP (JBS&G 2020). Notwithstanding, further assessment of sediments at depth may be required, should the excavation depth (to facilitate the construction of the new Sydney Fish Market building) within the investigation footprint extend beyond the depths reached as part of this investigation.

Abbreviations

Term	Definition
ACM	Asbestos Containing Materials
AEC	Areas of Environmental Concern
AHD	Australian Height Datum
ASRIS	Australian Soil Resource Information System
ASS	Acid Sulfate Soils
BTEXN	Benzene, Toluene, Ethylbenzene, Xylenes and Naphthalene
CLM Act	Contaminated Land Management Act
COC	Chain of Custody
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DBYD	Dial Before You Dig
DO	Dissolved Oxygen
DP	Development Plan
DQI	Data Quality Indicators
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
EC	Electrical Conductivity
Eh	Redox Potential
EIL	Ecological Investigation Levels
EPA	NSW Environmental Protection Authority
ESA	Environmental Site Assessment
ESLs	Ecological Screening Levels
Ha	Hectare
HAR	Heritage Assessment Report
HILs	Health Investigation Levels
HSLs	Health Screening Levels
INSW	Infrastructure NSW
JBS&G	JBS&G Australia Pty Ltd
JRA	Job Risk Assessment
LEP	Local Environmental Plan
LOR	Limit of Reporting
NATA	National Accreditation Testing Authority
OCP	Organochlorine Pesticides
OPP	Organophosphate Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PID	Photoionisation Detector
POEO Act	Protection of Environment Operations Act
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RPD	Relative Percentage Difference
SAQP	Sampling Analytical and Quality Plan
SCID	Stored Chemical Information Database
SWMS	Safe Work Method Statement
TRH	Total Recoverable Hydrocarbons
UCL	Upper Confidence Limit
UST	Underground storage tank
VOC	Volatile Organic Compounds

1. Introduction & Objectives

1.1 Introduction

JBS&G Australia Pty Ltd (JBS&G) was engaged by Infrastructure NSW (iNSW, the client) to complete a sediment characterisation assessment at a portion of the proposed new Sydney Fish Market (nSFM) located at the head of Blackwattle Bay between the Pyrmont Peninsula and the foreshore of Glebe (the site). The nSFM site is legally identified as Lots 3-5 in DP 1064339, part Lot 107 in DP 1076596 and part Lot 1 in DP835794 as shown on **Figures 1** and **2**.

It is understood that during recent demolition works for the former Hanson Wharf, sediments deposits additional to those anticipated during project planning were identified beneath the wharf footprint. At the direction of iNSW, this investigation has been specifically limited to the site portion beneath the Hanson Wharf, identified as part Lot 5 in DP1064339 as shown in **Figure 2**, comprising the investigation footprint.

As such, further site characterisation information is required to enable decision making with regard to requirements for management, potentially including relocation/removal of the sediment to enable construction of the nSFM development. In addition, consideration has also been given to the requirements for characterisation of sediment at the Site in accordance with the requirements of both the Acid Sulfate Soil Management Plan (JBS&G 2019[3]) and the Remedial Action Plan (JBS&G 2020[4]) to inform appropriate management procedures during the proposed construction works.

Current survey information that details the relative height and volume of the materials is currently not available, but it is anticipated the sediments will require removal/relocation to allow for the construction of the new Sydney Fish Market building.

This report has been prepared in accordance with the requirements of the NSW Environment Protection Authority (EPA) published and endorsed guidelines.

1.2 Objective

The objective of the assessment is to characterise site sediments within the investigation footprint in order to inform project decision making, including the development of appropriate management procedures associated with the proposed construction works with consideration to aspects/criteria established within the ASSMP (JBS&G 2019) and the RAP (2020).

1.3 Scope of Works

The following scope of work has been undertaken for the assessment:

- Review of previous site contamination assessment/investigation reports as made available to JBS&G;
- A systematic sediment investigation comprising the installation of 13 boreholes to adequately characterise the additional sediments within the investigation footprint for the identified contaminants of potential concern (COPCs) and potential acid sulfate soils (ASS);
- Laboratory analysis program for representative sediment samples with subsequent data evaluation against NSW EPA endorsed guideline values; and
- Preparation of this report documenting the methods and results of the investigation.

[3] *Acid Sulfate Soil Management Plan. The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW*. JBS&G Australia Pty Ltd, 4 April 2019 (JBS&G 2019)

[4] *Remedial Action Plan. The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW*. JBS&G Australia Pty Ltd, 8 July April 2020 (JBS&G 2020)

1.4 Previous Assessments

Previous environmental assessments and reports as available to JBS&G and relating to the site are listed following:

- *Environmental Site Investigation Blackwattle Bay Maritime Precinct Blackwattle Bay Maritime Precinct, NSW*, March 2009, Parsons Brinkerhoff (PB 2009);
- *Report to Land and Property Management Authority C/- Government Architects Office on Preliminary Environmental Site Assessment for Proposed Redevelopment – Waterfront at Markets, 56-60 Pyrmont Bridge Road, Pyrmont, NSW.* Ref: E24125Krpt, EIS, August 2010 (EIS 2010b);
- *Sydney Bays Precinct Urban Growth NSW Geotechnical Desktop Review*, 6 August 2014, Jacobs Group (Australia) Pty Limited (Jacobs 2014);
- *UrbanGrowth NSW Environmental Site Assessment The Bays Precinct Urban Transformation Area rev 1*, 18 November 2015, JBS&G Australia Pty Ltd (JBS&G 2015a);
- *UrbanGrowth NSW Site Wide Remedial Concept Plan The Bays Precinct Urban Transformation Area rev 0*, 4 December 2015, JBS&G Australia Pty Ltd (JBS&G 2015b);
- *Bays Market Precinct: Blackwattle Bay & Wentworth Park History, Built Heritage, Archaeology & Landscape Study*, July 2017, City Plan Heritage (CPH 2017);
- *Contamination Investigation The Bays Precinct – Separable Portion 1 Blackwattle Bay, Pyrmont, NSW*, 12 July 2017, Environmental Investigation Services (EIS 2017);
- *Revised Geotechnical Report to Urbangrowth NSW on Geotechnical Investigation for Proposed Bays Market District at Blackwattle bay & Wentworth Park, Pyrmont, NSW rev 2*, 14 September 2017, JK Geotechnics (JK 2017);
- *Environmental Site Assessment, The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW*. 2 November 2018, JBS&G Australia Pty Ltd (JBS&G 2018);
- *Acid Sulfate Soil Management Plan. The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW*. JBS&G Australia Pty Ltd, 4 April 2019 (JBS&G 2019); and
- *Remedial Action Plan. The new Sydney Fish Market, 1A to 1C Bridge Road, Glebe, NSW*. JBS&G Australia Pty Ltd, 8 July April 2020 (JBS&G 2020).

2. Site Identification & Environmental Setting

2.1 Site Identification

The site location is shown in **Figure 1**, and current site layout is shown in **Figure 2**. The site details are summarised in **Table 2.1** and described in the following sections. The assessment was limited to the extent of additional sediments as identified beneath the former Hanson Wharf during demolition works as defined by the investigation footprint shown on **Figure 2**.

Table 2.1: Summary Site Details

Site Lot / DP	Lots 3-5 in DP 1064339 Part Lot 107 in DP1076596 Part Lot 1 in DP835794
Site Address	1A to 1C Bridge Road, Glebe NSW and part 56-60 Pyrmont Bridge Road, Pyrmont NSW
Investigation Area Lot / DP	Part Lot 5 in DP1064339
Investigation Area Address	1A Bridge Road, Glebe NSW
Local Government Authority	City of Sydney Council
Approximate MGA Coordinates (MGA 56)	Easting: 332669.678 Northing: 6250259.919
Previous Use	Various industrial and commercial uses (concrete batching plant)
Proposed Use	Commercial use (fish market)
Site Area	Approximately 3.7 Ha (approximately 0.76 Ha land based)

2.2 Site Description

The investigation area footprint was inspected (where accessible) during sampling activities undertaken by experienced JBS&G personnel on 30 November 2020, with key observations documented following:

- The former wharf structure was in the process of been demolished at the time of sampling activities. Within the northern portion of the investigation area, the former deck had been completely removed, leaving only wooden piles within this portion. The concrete deck was still present in the southern portion (as represented by sampling locations SFM01-SFM06 and SFM08) which limited overhead access for sampling works;
- At high tide, all areas within the investigation footprint were flooded with surface water of Blackwattle Bay;
- At low tide, there were exposed sediments within the central-southern portion of the investigation area. The sediments were observed to comprise of dark-grey to black gravelly silt.
- Pieces of concrete were observed on the seabed adjacent to sampling locations SFM3-SFM5 and SFM8. The extent (size and distribution) as well as likely source of the concrete could not be determined during the assessment given that the pieces were partially submerged/underlying sediments.

A photographic log is provided in **Appendix F**.

2.3 Blackwattle Bay

A detailed site history and environmental setting is provided in JBS&G (2020), with a brief overview provided as follows:

- The site and Blackwattle Bay were reclaimed in the period between 1836 and 1891;
- The site was used for commercial purposes from 1900 that included timber merchants, abattoirs and garbage collectors;

- Lot 3 in DP1064339 located in the eastern portion of the site was used for unloading coal since before 1951. Coal fragments have been reported on the seafloor and within boreholes previously completed at the site;
- Blackwattle Bay receives stormwater input via drains that discharge at the south-eastern and south-western site extents;
- Water depths in Blackwattle Bay are generally less than 8 m below lowest astronomical tide (LAT), but the southern shoreline (i.e within the southern portion of the site) is considerably shallower and is exposed in certain areas at low tide;
- The current maritime usage of Blackwattle Bay includes boat storage, wharves servicing commercial (marinas and fishing) operations, recreational activities and rowing; and
- Commercial fishing has been banned throughout Blackwattle Bay (and wider Port Jackson) due to elevated contaminant concentrations in edible species. In addition, recreational fishers are advised to follow dietary advice on the consumption of seafood taken from Sydney Harbour inclusive of Blackwattle Bay.

2.4 Local Geology and Soils

Jacobs (2014) reported that review of existing geotechnical maps indicate that the area of the site is underlain by a significant depth (>3 m) of fill material as consistent with historical reclamation of the area from Blackwattle Bay. This is consistent with Wentworth Park as located further south of the site. Hawkesbury Sandstone was anticipated under site filling.

JK (2017a) reported that the 1:100,000 Geological Map of Sydney identified the site to be underlain by man-made fill and estuarine soils overlying Hawkesbury Sandstone of the Wianamatta Group. The Hawkesbury Sandstone comprises medium to coarse grained quartz sandstone with very minor shale and laminite lenses. It was further noted that at least two dykes were believed to extend through the site in a rough north-west to south-east alignment.

Geotechnical investigation boreholes in Blackwattle Bay undertaken for JK (2017a) disclosed a subsurface profile generally comprising natural clay and sandy clay of medium to high plasticity and clayey sand overlying sandstone bedrock. In the Bay, the boreholes typically encountered no fill from the seabed level, except the boreholes close to the existing shoreline where fill extending up to 4.7m depth was encountered. There generally appear to be a fill layer close to the southern shoreline. The fill was reported to comprise clayey sand and silty clay with trace amounts of fine to medium grained sand, coal and plastic fragments. Boreholes in the adjoining Wentworth Park identified fill comprising silty sand or sandy clay containing varying amounts of inclusions such as sandstone and igneous gravel, timber, tile, ceramic, glass, shell, concrete and brick fragments, slag and ash.

Natural soils were encountered either from seabed level or at about 0.5m depth in the Bay and comprised interbedded layers of silty clay, sandy clay and clayey sand soils. The predominantly clay samples were assessed as having moisture content greater than their plastic limits and based upon hand penetrometer tests completed on the samples, ranged in strength from very soft to very stiff. The clays were assessed as generally being of medium to high plasticity, although the more sandy clays were generally of low to medium plasticity. The predominantly sandy samples were assessed as wet and ranged from very loose to dense relative density. The natural soils contained varying amounts of fine to coarse grained gravel, shell fragments and other organic materials.

Sandstone bedrock was encountered underlying natural soils at depths ranging from approximately 5.5-13.4 m below ground surface (bgs, corresponding to elevations of-9.1 to -18.5 m Australian Height Datum (AHD).

2.5 Acid Sulfate Soils

Review of the Acid Sulfate Soil (ASS) Risk Map for Prospect/Parramatta indicates[5] that the subject site is located within an area of 'high probability' of acid sulfate soils within bottom sediments. In such areas, there is a severe environmental risk if bottom sediments are disturbed by activities such as dredging.

PB (2009) noted potential indicators of ASS comprising odorous marine sediments with sea shells in boreholes located in the southern portion of the site (overlying the land portion of the site) and within marine sediments in Blackwattle Bay. Similar observations were reported in JBS&G (2015) and EIS (2017), however no samples were analysed at a laboratory to confirm if the soils comprised actual ASS.

Given the proposed development scheme and the anticipated acid generation characteristics of the sediment and potentially soil at the site, an ASSMP (JBS&G 2019) was prepared in conjunction with the RAP (2020) in which all marine sediments within the development footprint (i.e. the site) are assumed to comprise PASS.

[5] *'Acid Sulfate Soil Risk Map – Prospect/Parramatta, Edition 2',* 1997 1:25 000, NSW Department of Land and Water Conservation (DLWC), Ref 9130N3 (NSW DLWC)

3. Conceptual Site Model

A conceptual site model (CSM) as specific to the areas of the site overlying surface waters within Blackwattle Bay and based on the historical results from sediment sampling in the wider site area (as presented in JBS&G 2018) is presented in **Table 3.1** following. **Figure 3** presents the historical sampling locations and sediment sample exceedances.

Table 3.1: Conceptual Site Model

CSM Aspect	Summary of Available Information
Current Extent of Known Impacts	**Sediments** Blackwattle Bay has been subjected to the discharge of industrial waste and urban run-off since the early days of colonial settlement. This has led to the sediments within the Bay to become enriched in various contaminants. Heavy metals, total polycyclic aromatic hydrocarbons (PAHs), (limited) total polychlorinated biphenyls (PCBs) and total recoverable hydrocarbon (TRH) contaminated sediments have been identified within the extent of the site. A baseline ecological assessment (UNSW 2017[6]) was conducted within the Bays Precinct and included sediment sampling within the greater area of Blackwattle Bay. The report found that the sediments of Blackwattle Bay had significant metal and nutrient contamination indicative of highly disturbed conditions. On this basis, the elevated contaminant concentrations previously reported in sediments within the subject site are likely reflective of conditions throughout the extent of Blackwattle Bay as a result of historical industrial activities along the foreshore of the Bay. All sediments within the site extent are also anticipated to be ASS. As such, management of the potential for acid generation conditions will be required during all ground/sediment disturbance activities completed at the site in accordance with the ASSMP (JBS&G 2019) unless subsequently found to not comprise of PASS.
Human and Ecological Receptors	**Human** Human receptors within the investigation footprint and wider site area (in areas overlying surface water) are likely to be limited to recreational users of Blackwattle Bay. In addition, construction workers may be exposed to sediments during excavation/construction works. **Ecological** UNSW (2017) provides a detailed review of the ecological receptors within Blackwattle Bay which were identified to include: • 14 species of native fish; • Flora and fauna on hard structures (epifauna) within the intertidal and subtidal areas that included barnacles, oysters, mussels, algae etc; and • Microorganisms that included eukaryote assemblages (such as diatoms, arthropods nematodes) and bacteria.
Potential and Complete Exposure Pathways	**Human** For general site users, exposure to site sediments is anticipated to be limited given that access is precluded by virtue that the materials are covered with surface water and/or structures. During construction, short term exposure scenarios are anticipated to be limited to oral and dermal exposure associated with direct contact, given the saturated nature of the material will likely preclude generation of dust and/or vapours. **Ecological** Organisms living within estuarine systems have the ability to bioaccumulate contaminants from sediments via direct contact and/or the ingestion of sediment particles. The concentrations of heavy metals, total PAHs, total PCBs and TRH within surficial sediment samples exceed guideline values, which indicates a potentially complete exposure pathway for ecological receptors. It is noted that the design of the development will result in a

[6] *Baseline Assessment of Ecological Structure and Environmental Conditions at the Bays Precinct*, University of New South Wales, March 2017 (UNSW 2017).

CSM Aspect	Summary of Available Information
	limited water column between the sediment bed and the basement structure, which will likely limit the extent and nature of organisms resident within the investigation area subsequent to construction of the building.
Potential for Off-site Migration	Water velocities within Blackwattle Bay are generally low (<0.1 m/s) and boat traffic is limited, therefore the redistribution of sediments to beyond the site boundary is expected to be limited. Environmental controls (such as silt curtains) will further limit the redistribution of sediments to beyond the site boundary during construction activities.
Data Gaps	The primary data gap which is the subject of this assessment is the additional sediments recently identified beneath the former Hanson Wharf that have not been characterised. Given that Blackwattle Bay has been subject to the discharge of industrial waste and urban run-off as part of its history, the additional materials have the potential to be impacted with a wide range of contaminants that includes heavy metals, TRH, benzene, toluene, ethylbenzene, xylenes (BTEX), PAHs, organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs), tributyltin (TBT) and asbestos. In addition, the extent of PASS materials which may require management during construction activities is not known.

4. Data Quality Objectives

4.1 Data Quality Objectives

Data Quality Objectives (DQOs) were established for the sediment characterisation assessment, as discussed in the following sections.

4.1.1 State the Problem

Additional sediments have been identified beneath the former Hanson Wharf that have previously not been characterised. The sediments have the potential to be impacted by virtue of the unknown origin of the materials. In addition, the materials are located within the highly disturbed Blackwattle Bay, where sediments have previously been identified to be impacted with wide range of contaminants that includes heavy metals, total PAHs, total PCBs and TRH. As such, the materials require characterisation in order to inform appropriate management procedures during the proposed construction works for the new Sydney Fish Market building.

4.1.2 Identify the Decision

The decisions required to be made for the investigation are:

- Have potential impacts within the additional sediments in the investigation footprint been appropriately characterised?
- Are the materials suitable for on-site retention/re-use?
- Has the extent of potential acid sulfate soils that require management during remediation/construction activities been appropriately defined?
- Can a preliminary waste classification be provided for materials that may require off-site disposal during future development activities?
- Is further assessment required?

4.1.3 Identify Inputs to the Decision

The following inputs are required in order to make the stated decisions:

- Previous sediment data available for the site and Blackwattle Bay;
- Sediment sampling from boreholes to assess for the presence of potential chemical COPCs, asbestos and acid sulfate soils;
- Laboratory analysis data for COPCs;
- Site assessment criteria for potentially impacted sediment for the identified COPCs; and
- Confirmation that data generated by sampling and analysis is of an acceptable quality to allow reliable comparison to assessment criteria.

4.1.4 Define the Study Boundaries

The study boundaries comprised the spatial extent of additional sediment deposits as identified beneath the former Hanson Wharf as defined by the Investigation Footprint shown on **Figure 2**. The vertical extent of the assessment was limited to the maximum depth of 2.2 m bgs (below seabed level) that could be reached as part of the investigation, given practical constraints associated with site access at the time of the investigation.

The temporal study boundaries were limited to the period of assessment works. Due to the nature of the potential contamination identified, seasonality is not considered to be significant with respect to assessing risks to future site receptors.

4.1.5 Develop a Decision Rule

The decision rules adopted to answer the decisions identified in **Section 5.1.2** are summarised in **Table 5.1**.

Table 5.1: Summary of Decision Rules

Decision Required to be Made	Decision Rule
1. Have potential impacts within sediments in the investigation footprint been appropriately characterised?	Has data been collected at the proposed sample locations in accordance with the sampling density recommended in EPA (1995[7]) and the ASSMP (2019) as well as to the maximum depth that sediments may be disturbed during future construction works? Have all potential impacts within sediments been appropriately delineated? If Yes to all, the answer to the decision is Yes. Otherwise the answer to the decision is No. In this instance, further field sampling activities and/or laboratory analysis would be required to address the question.
2. Are the materials suitable for on-site retention/re-use?	Sediment analytical data was compared against EPA endorsed criteria. Statistical analysis of the data in accordance with relevant guidance documents was undertaken where appropriate, to facilitate the decisions. The following statistical criteria were adopted with respect to sediments: Either: the reported concentrations is below the site criteria; Or: the 95% upper confidence limit (UCL) of the average concentration for each analyte is below the adopted site criterion; no single analyte concentration exceeds 250% of the adopted site criterion; and the standard deviation of the results are less than 50% of the site criterion. If the statistical criteria stated above are satisfied, the answer to the decision is Yes. If the statistical criteria above were not satisfied, a qualitative assessment was undertaken that broadly comprised a comparison of the data collected herein to the historical sediment data collected from the site and wider Blackwattle Bay areas. If the contaminant levels within sediments are comparable to historical results collected from the site and broader Blackwattle Bay area, the answer to the decision was Yes. Otherwise the answer to the decision was No.
3. Has the extent of potential acid sulfate soils that require management during remediation/construction activities been appropriately defined?	Have the additional sediments that may be disturbed during the proposed development construction works been assessed in accordance with the requirements of ASSMAC (1998[8]) and JBS&G (2019) enabling identification of ASS characteristics? If Yes, the answer to the decision was Yes. Otherwise, the answer to the decision was No.
4. Can a preliminary waste classification be provided for materials that may require off-site disposal during future development activities?	Representative sediment analytical data were compared against EPA (2014) criteria and supplementary NSW EPA advice. Statistical analysis of the data in accordance with relevant guidance documents was undertaken, where appropriate, to facilitate the provision of a preliminary waste classification of the materials. If the data comparison outcome identified that a waste classification could be provided, then the answer to the decision was Yes. Otherwise, the answer to the decision was No. In this instance, further consideration may be necessary with regard to additional data .
5. Is further assessment required?	Assessed by guidance to other decisions.

[7] *Contaminated Sites Sampling Design Guidelines*, NSW Environment Protection Authority, September 1995 (EPA 1995).
[8] *Acid Sulfate Soil Manual*, NSW Acid Sulfate Soil Management Advisory Committee, August 1998 (ASSMAC 1998).

4.1.6 Specify the Limits on Decision Error

This step is to establish the decision maker's tolerable limits on decision errors, which are used to establish performance goals for limiting uncertainty in the data. Data generated during this project must be appropriate to allow decisions to be made with confidence.

Specific limits for this project have been adopted in accordance with the appropriate guidance from the NSW EPA, NEPC 2013[9], appropriate indicators of data quality (DQIs used to assess quality assurance / quality control) and standard JBS&G procedures for field sampling and handling.

To assess the usability of the data prior to making decisions, the data will be assessed against pre-determined Data Quality Indicators (DQIs) established for the project as discussed below in relation to precision, accuracy, representativeness, comparability and completeness (PARCC parameters). The acceptable limit on decision error is 95% compliance with DQIs.

The DQIs and data assessment criteria are summarised as presented in **Table 5.2**.

- **Precision** - measures the reproducibility of measurements under a given set of conditions. The precision of the laboratory data and sampling techniques is assessed by calculating the Relative Percent Difference (RPD) of duplicate samples.
- **Accuracy** - measures the bias in a measurement system. The accuracy of the laboratory data that are generated during this study is a measure of the closeness of the analytical results obtained by a method to the 'true' value. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes and analyses against reference standards.
- **Representativeness** – expresses the degree which sample data accurately and precisely represent a characteristic of a population or an environmental condition. Representativeness is achieved by collecting samples on a representative basis across the site, and by using an adequate number of sample locations to characterise the site to the required accuracy.
- **Comparability** - expresses the confidence with which one data set can be compared with another. This is achieved through maintaining a level of consistency in techniques used to collect samples; ensuring analysing laboratories use consistent analysis techniques and reporting methods.
- **Completeness** – is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study.

Table 5.2: Summary of DQIs

Data Quality Objectives	Frequency	Data Quality Indicator
Precision		
Blind duplicates (intra laboratory)	1 / 20 samples	<50% RPD
Blind duplicates (inter laboratory)	1 / 20 samples	<50% RPD
Accuracy		
Surrogate spikes	All organic samples	70-130%
Laboratory control samples	1 per lab batch	70-130%
Matrix spikes	1 per lab batch	70-130%

[9] *National Environment Protection (Assessment of Site Contamination) Measure, 1999 Amendment No 1*, National Environment Protection Council (NEPC 2013).

Data Quality Objectives	Frequency	Data Quality Indicator
Representativeness		
Sampling appropriate for media and analytes		-
Samples extracted and analysed within holding times.	-	Sediment Organics (7-14 days), inorganics (6 months)
Trip spike (BTEX only)	1 per sampling event	70-130% recovery
Rinsate blank	1 per sampling event	<LOR
Method blank	1 per lab batch	<LOR
Comparability		
Standard operating procedures for sample collection & handling	All Samples	All samples
Standard analytical methods used for all analyses	All Samples	All samples
Consistent field conditions, sampling staff and laboratory analysis	All Samples	All samples
Limits of reporting appropriate and consistent	All Samples	All samples
Completeness		
Sample description and COCs completed and appropriate	All Samples	All samples
Appropriate documentation	All Samples	All samples
Satisfactory frequency and result for QC samples	All QA/QC samples	-
Data from critical samples is considered valid	-	Critical samples valid

4.1.7 Optimise the Design for Obtaining the Data

The purpose of this step is to identify a resource-effective field investigation sampling design that generates data that are expected to satisfy the criteria specified in the preceding steps of the DQO process. This step provides a general description of the activities necessary to generate and select data collection designs that satisfy decision performance criteria.

Based on the objectives of the assessment, a systematic sediment sampling program was undertaken across the extent of the investigation footprint. Sediment sampling was conducted to appropriately characterise potential site impacts and meet the sampling density specified in the ASSMP (JBS&G 2019) and EPA (1995). Noting that the sampling density was undertaken on the basis of a 20 m grid (as shown on **Figure 4**), the number of sample locations met the required density specified in the ASSMP (JBS&G 2019) and exceeded the density required by EPA (1995) – where it is noted that for sites of approximately 3 ha (as consistent with the development footprint area overlying surface waters over Blackwattle Bay), it is recommended to complete the sampling density on a 27 m grid.

Overall, the sediment sampling program was designed to characterise the identified COPCs (both chemical and asbestos) and potential acid sulfate soils within the investigation footprint such that a statistically robust data set sufficient to enable decision making could be obtained to enable decision making.

4.2 Assessment Methodology

4.2.1 Sediment Sampling

Sediment samples were collected via a manually-operated piston coring device (stainless steel barrels, 50.8 mm OD) to a maximum depth of 2.2 m. Penetration depth at each location was dependent on the nature of the substrate encountered and available overhead working space (due

to the remaining presence of the wharf structure at locations in the southern portion of the investigation area).

Sediment samples (for chemical constituents) were collected in the biologically active zone, i.e. 0-0.1m and then at 0.5m intervals to a maximum depth of 2.2 m or prior refusal, whichever was shallower. Sediment samples for asbestos analysis were generally collected at 1.0 intervals to the maximum depth of the investigation. During the collection of sediment samples, features such the presence of ash/coal, discolouration, staining, odours, and other indicators of contamination were noted.

Collected samples were immediately transferred to laboratory supplied sample jars (additional 500 mL plastic bags were used where asbestos analysis was required). The sample jars/bags were then transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form was completed and forwarded with the samples to the testing laboratory.

Sediment samples for field ASS and laboratory analysis of samples were placed in small zip lock plastic bags and placed directly on ice during sampling activities. Field testing of samples were completed during/following the collection of all samples in accordance with the field testing procedure presented in the ASSMAC (1998) noting that field pHf and pHfox tests were recorded.

Duplicate sediment samples were collected at a rate of one per 20 primary samples. Duplicate samples were collected for QA/QC purposes from the core by taking discrete sediment samples and placing directly into the sample jars. Samples were not mixed prior to placement into the jars to minimise the potential for loss of volatiles. Similarly, where 500 mL samples were required for duplicate asbestos analysis no mixing of material was undertaken prior to placement into plastic bags to prevent the loss of free fibres. It is noted that this methodology may result in the calculation of poor RPDs but this is considered acceptable given that the loss of volatiles/fibres that may occur if samples are mixed would result in the reporting of lower contaminant concentrations than actually present. A trip spike BTEX only) and rinsate blank (for non-dedicated equipment) were collected with the batch of samples.

All non-disposable sampling equipment, including piston coring device, were cleaned with a high pressure water/ detergent spray, rinsed with water and then air dried. The equipment was then inspected to ensure that no sediment, oil, debris or other contaminants were apparent on the equipment prior to the commencement of works. Sampling equipment was subsequently decontaminated using the above process between each location.

Not all sediment samples collected were analysed. Sediment samples were analysed in accordance with the sampling and analytical program (**Table 5.3**).

4.2.2 Analytical Methodology

JBS&G contracted Eurofins MGT (Eurofins) as the primary laboratory, with Envirolab Services (Envirolab) as the secondary laboratory. All laboratories are NATA registered for the required analyses. In addition, the laboratories were required to meet JBS&G's internal QA/QC requirements.

Table 5.3: Analytical Schedule

Sample Type	No. of Sampling Locations	Analyses (exc. QA/QC)
Sediment	13 locations	Heavy metals – 20 samples PAHs – 20 samples TRH/BTEX – 18 samples OCPs/PCBs – 16 samples VOCs – 7 samples Tributyltin – 6 samples Asbestos (500 mL) – 14 samples SPOCAS (acid sulfate soils) – 13 samples TCLP heavy metals – 19 samples TCLP PAHs – 11 samples

5. Assessment Criteria

5.1 Sediment Assessment Criteria

With respect to the assessment of potential ecological risks and corresponding suitability for on-site re-use/retention, sediment data has been screened within the framework instructed to Australian and New Zealand Guidelines for Sediment Quality (ANZAST, August 2018). Sediment guidelines are provided in ANZAST (2018) as sediment quality guideline (GV) values. These are provided as default (D-GV) and guideline-high (GV-high) values corresponding to the statistical probability of effects. For the relevant organic constituents assessed, the reported concentrations have been normalised to 1% organic carbon based on sample analysis results. A summary of the sediment assessment criteria is provided in **Table 6.1** following.

Table 6.1: Chemical Contaminants in Sediment Assessment Criteria (all units in mg/kg)

	Limit of Reporting	Laboratory Method	D-GV ANZAST 2018	GV-high ANZAST 2018
TPH				
TPH (C_6-C_{40})[1]	50	Purge Trap-GCMS (USEPA8260)	280	550
PAHs				
Total PAHs[1]	0.5	GCMS (USEPA8270)	10	50
Heavy Metals				
Arsenic	2.0	ICP-AES (USEPA 200.7)	20	70
Cadmium	0.4	ICP-AES (USEPA 200.7)	1.5	10
Total Chromium	1.0	ICP-AES (USEPA 200.7)	80	370
Copper	1.0	ICP-AES (USEPA 200.7)	65	270
Nickel	1.0	ICP-AES (USEPA 200.7)	21	52
Lead	1.0	ICP-AES (USEPA 200.7)	50	220
Zinc	1.0	ICP-AES (USEPA 200.7)	200	410
Mercury (inorganic)	0.05	Cold Vapour ASS (USEPA 7471A)	0.15	1
PCBs				
PCBs (total)[1]		GCECD (USEPA8140,8080)	0.034	0.28
OCPs				
4,4-DDE[1]	0.1	GCECD (USEPA8140,8080)	0.0014	0.007
Chlordane[1]	0.1	GCECD (USEPA8140,8080)	0.0045	0.009
DDD[1]	0.1	GCECD (USEPA8140,8080)	0.0035	0.009
DDT[1]	0.1	GCECD (USEPA8140,8080)	0.0012	0.005
Dieldrin[1]	0.1	GCECD (USEPA8140,8080)	0.0028	0.007
Endrin[1]	0.1	GCECD (USEPA8140,8080)	0.0027	0.06
Lindane[1]	0.1	GCECD (USEPA8140,8080)	0.0009	0.0014
Organometallics				
TBT[1]	0.0005	ES-MS (USEPA 8323)	9[2]	70[2]

[1] (mg/kg dry weight normalised to 1% OC within the limits of 0.2 to 10%)

[2] (units are µg/kg)

For compounds where ANZAST (2018) does not provide guideline values (such as BTEX and VOC compounds), the laboratory limit of reporting (LOR) has been adopted as an initial screening value.

Noting that it is highly unlikely that future on-site human receptors will come into direct contact with saturated sediments (and will therefore not be exposed to potential asbestos impacts within the materials), the concentration of asbestos within sediments is not considered relevant when assessing suitability for on-site retention/re-use. Notwithstanding, asbestos screening levels have been adopted as applicable to the proposed land-uses for the site and are presented in **Table 6.2** below.

Table 6.2: Asbestos in Soil Health Based Assessment Criteria (all units in % w/w)

	Health Screening Level (w/w)	
Form of Asbestos	**Recreational (C)**	**Commercial/Industrial (D)**
Bonded ACM	0.02 %	0.05 %
Fibrous asbestos or asbestos fines[3]	0.001 %	0.001 %
All forms of asbestos	No visible ACM for surface soil (0 – 0.1 m bgs).	No visible ACM for surface soil (0 – 0.1 m bgs).

5.2 Acid Sulfate Soil Criteria

The assessment of acid sulfate soil conditions was completed via use of laboratory sPOCAS analysis methods with the results compared to the site acid sulfate soil action criteria published in the *Acid Sulfate Soil Manual* (ASSMAC 1998[10]), as presented in **Table 6.3** below. Where results exceeded the site action criteria, material was considered to comprise Potential/Actual Acid Sulfate Soil.

Table 6.3: ASS Site Assessment Criteria

Soil Type		Action Criteria (1-1000 tonnes disturbed)		Action Criteria (>1000 tonnes disturbed)	
Texture	Clay Content (%)	Sulfur Trail (S_{pos}%) - S %	Acid Trail (TPA/TSA) mol H^+/tonne	Sulfur Trail (S_{pos}%) - S %	Acid Trail (TPA/TSA) mol H^+/tonne
Coarse	<5	0.03	18	0.03	18
Medium	5-40	0.06	36	0.03	18
Fine	>40	0.1	62	0.03	18

5.3 Waste Classification Assessment

To address the assessment objective for the provision of a preliminary waste classification of fill/soil materials at the site, laboratory analysis data have been compared to threshold concentrations (total and leachable concentrations) published in NSW EPA guidance documentation presented in *NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste* (EPA 2014a[11]). In addition, consideration has also been given to *NSW EPA Waste Classification Guidelines, Part 4: Acid Sulfate Soils* (EPA 2014b[12]) with respect to management during disposal of potential ASS materials.

[10] *Acid Sulfate Soil Manual*, New South Wales Acid Sulfate Management Advisory Committee, August 1998 (ASSMAC 1998)
[11] *Waste Classification Guidelines, Part 1: Classifying Waste,* NSW Environment Protection Authority, November 2014 (EPA 2014a)
[12] *Waste Classification Guidelines, Part 4: Acid Sulfate Soils*, NSW Environment Protection Authority, November 2014 (EPA 2014b)

6. Quality Assurance / Quality Control

Data quality indicators (DQIs) have been calculated as per the requirements of **Table 5.2** and are summarised in **Table 7.1** following. Laboratory reports are provided as **Appendix C**, with summarised QA/QC results presented in **Appendix D**.

Table 7.1: Summary of Quality Assurance / Quality Control Assessment

Data Quality Indicator	Frequency	Results Reported	DQI met
Precision			
Blind duplicates – sediment	2/20	0-117 % RPD	See discussion below
Split duplicates – sediment	2/20	0-114 % RPD	See discussion below
Accuracy			
Surrogate spikes	All samples for organic constituent analysis	53-148 % recovery	See discussion below
Laboratory control samples	1/20	70-130 % recovery	Yes
Matrix spikes	1/20	70-130 % recovery	Yes
Representativeness			
Sampling appropriate for media and analytes	All media	All sampling appropriate	Yes
Samples extracted and analysed within holding times.	Various	All samples extracted and analysed within holding times	See discussion below
Method blank	All analytes	<LOR	Yes
Trip blank Trip Spike	1/sampling event 1/sampling event	<LOR 70-130% recovery	Yes
Comparability			
Standard operating procedures for sample collection & handling	All samples	Standard procedures for all sampling	Yes
Standard analytical methods used for all analyses	All samples	Standard analytical methods	Yes
Consistent field conditions, sampling staff and laboratory analysis	All works	Consistent field staff and consistent field and laboratory conditions	Yes
Limits of reporting appropriate and consistent	All samples	LORs appropriate and generally consistent	Yes
Completeness			
Sample description and COCs completed and appropriate	All samples	Field documentation and COC provided and completed	Yes
Appropriate documentation	All works	Documentation provided and completed	Yes
Satisfactory frequency and result for QC samples	All samples	See discussion below	Yes
Data from critical samples is considered valid	-	Critical samples valid	Yes

6.1 Discussion of QA/QC Results

The results of QA/QC samples outside the acceptance criteria are discussed below.

6.1.1 Precision

Sediment Duplicates

Sediment blind and split duplicates were collected at a rate of greater than 1 per 20 primary samples analysed and the majority of resultant RPDs were reported to be within the JBS&G acceptable limit (0-50 %). A number of heavy metal, TRH and PAH compounds were reported to have elevated RPDs, which is considered to be a result of the difficulty in obtaining homogenous sediment samples in undisturbed sample types. As a conservative measure, the highest reported concentration of each constituent at each location will be considered when interpreting the results of the investigation.

6.1.2 Accuracy

Surrogate Spikes

Sediment surrogate spikes were conducted on all samples submitted for organic constituent analysis and generally all recoveries were reported within the JBS&G acceptable range (70-130 %). A small number of surrogates were reported outside the JBS&G acceptable range, but were within the laboratories acceptable limits (typically between 50 and 150 % recovery) under their NATA accreditation.

Elevated surrogate recoveries indicate the reported concentrations may potentially be greater than the actual concentrations, while low surrogate recoveries indicate the reported concentrations may potentially be less than the actual concentrations. Taking this into account it is considered that samples with slightly elevated or lower surrogate recoveries do not affect the reliability of the data for this investigation, with regard to the overall decision making objectives.

Matrix Spikes

The number of matrix spikes analysed exceeded the required frequency of 1 in 20 samples for sediment analysis. The reported matrix spike recoveries were within the JBS&G acceptable range (70-130 %) and therefore matrix interference is considered to not be significant with respect to the accuracy of the dataset.

Laboratory Control Samples

A sufficient number of laboratory control samples were analysed for all media types in which all recoveries were within the preferred range (70-130%) in the primary samples analysed.

6.1.3 Representativeness

Sampling appropriate for media and analytes

All sediment sampling works completed during the investigation were conducted in accordance with JBS&G standard operating procedures. Sediment sampling was conducted with the advancement of boreholes via a piston core sampler, considered appropriate to obtain undisturbed samples for the potential site chemical contaminants. It is noted that boreholes are not the preferred method of investigation for asbestos, in which the analysis as part of this investigation is for information purposes only to assist with the waste classification, if required. Given the outcomes of the investigation, the adopted assessment methodology is considered appropriate to achieve defensible decisions as required for this investigation.

Laboratory Blanks

There were no reported concentrations of contaminant compounds above the laboratory LOR in the laboratory method blanks for sediment analysis.

Holding Times

The extraction and analysis of total contaminant concentrations within primary samples were completed within the recommended holding times for all analytes. Some additional analysis (comprising TCLP and silica gel clean-up) was completed on selected samples following receipt of the initial results, in which the holding times were slightly outside of what is recommended. Noting, that all samples were refrigerated at the laboratory prior to analysis, it is considered unlikely that the slight exceedance in extraction time for these constituents would have significantly affected the reported concentrations. On this basis, these minor exceedances are not considered significant with respect to suitability of the resulting data to support the assessment decisions.

Trip Spike

A trip spike was submitted with the batch of sediment samples. All trip spike recoveries were within the acceptable limit of 70-130 %, indicating that the adopted assessment sample preservation methods were appropriate to result in a low risk of contaminant concentration loss during transport of the samples.

Trip Blank

A trip blank was submitted the batch of sediment samples submitted to the laboratory. There were no reported concentrations of BTEX above the laboratory LOR thus demonstrating the absence of significant contaminant cross contamination issues during the temporary storage and transportation of samples analysed during this investigation.

6.1.4 Comparability

Eurofins (primary laboratory) and Envirolab (secondary laboratory) were NATA accredited for comparable methods of analysis. Field works have been undertaken by a team of experienced sediment samplers in accordance with the same standard operating procedure. All field documentation was appropriately completed.

6.1.5 Completeness

Documentation

All documentation is complete and correct.

Frequency for QC Samples

The frequency of analysis for the QC samples collected has met or exceeded the required minimum frequency for each analyte and media analysed.

6.2 QA/QC Assessment

The field sampling and handling procedures produced QA/QC results which indicate that the sediment data is of an acceptable quality and suitable for use in site characterisation.

The NATA certified laboratory results sheets indicate that the project laboratory was generally achieving levels of performance within its recommended control limits during the period when the samples from this program were analysed.

On the basis of the results of the field and laboratory QA/QC program, the sediment data is of an acceptable quality in order to achieve the objectives of the assessment.

7. Sediment Assessment

The lithology encountered at the site during the field works is summarised below. Borehole logs are included in **Appendix B**. A total of 13 boreholes were installed by JBS&G as part of the current investigation.

7.1 Field Observations

Sediments at all locations comprised of gravelly, clayey silt (mud), with varying levels of inclusions that was composed of coal, ash, sea shells, organic matter and metal fragments. The gravel content was generally greatest within shallow sediments and decreased with depth. In addition, the silt and clay content generally increased with depth at each location.

The final depths of the investigation are detailed following; SFM01 (1.1 m), SFM02 (0.5 m), SFM03 (0.6 m), SFM04 (0.5 m), SFM05 (1.2 m), SFM06 (1.2 m), SFM07 (1.6 m), SFM08 (0.1 m), SFM09 (0.6 m), SFM10 (0.6 m), SFM11 (1.2 m), SFM12 (0.6 m), SFM13 (2.2 m).

Slight hydrocarbon odours were noted in sediments at locations SFM10 and SFM13. In addition, sulfidic odours were observed in sediments at all locations.

Pieces of concrete were observed on the seabed in close proximity to sampling locations SFM3-SFM5 and SFM8. The extent (size and distribution) as well as likely source of the concrete could not be determined during the assessment given that the pieces were partially submerged/underlying sediments. No visible asbestos containing material was identified during the sediment sampling activities.

Indicative images of the materials are provided in **Appendix F**.

7.2 Analytical Results

Laboratory analysis results for soil samples completed for the investigation have been summarised in tables presented in **Appendix A**, with comments discussed below for the various analyte groups. Statistical outputs from the analytical dataset are provided in **Appendix E**.

Heavy Metals

The concentrations of various heavy metals as presented in **Table A** were reported to exceed the adopted criteria as per the following:

- The concentration of arsenic was reported to exceed the D-GV (20 mg/kg) in 10 out of 20 analysed samples. The 95% upper confidence limit (UCL) of the mean concentration was reported to be 22.5 mg/kg and the standard deviation and maximum concentrations were reported to be 9.8 and 34 mg/kg respectively. The mean arsenic concentration within the materials assessed herein therefore marginally exceeds the D-GV but well below the GV-high guideline value.
- The concentration of cadmium was reported to exceed the D-GV (1.5 mg/kg) and GV-high (10 mg/kg) in 10 and 1 respective individual samples out of the 20 samples analysed. The 95% UCL of the mean concentration was reported to be 6.2 mg/kg and the standard deviation and maximum concentrations were reported to be 3.9 and 13 mg/kg respectively. The mean cadmium concentration within the materials assessed herein therefore marginally exceeds the D-GV but is below the GV-high guideline value.
- The concentration of total chromium was reported to exceed the D-GV (80 mg/kg) and GV-high (370 mg/kg) in 3 and 2 respective samples out of the 20 samples analysed. The 95% UCL of the mean concentration was reported to be 160 mg/kg and the standard deviation and maximum concentrations were reported to be 144 and 580 mg/kg respectively. The mean total chromium concentration within the materials assessed herein therefore marginally

exceeds the D-GV but is well below the GV-high guideline value. The reported concentration of chromium VI in the three samples with the highest reported total chromium concentrations (SFM07 1.5-1.6, SFM11 1.0-1.1 and SFM12 0.5-0.6) were each below <1 mg/kg.

- The concentration of copper was reported to exceed the D-GV (65 mg/kg) and GV-high (270 mg/kg) in 10 and 10 respective samples out of the 20 samples analysed. The 95% UCL of the mean concentration was reported to be 600 mg/kg and the standard deviation and maximum concentrations were reported to be 445 and 2,100 mg/kg respectively.
- The concentration of lead was reported to exceed the D-GV (50 mg/kg) and GV-high (220 mg/kg) in 3 and 17 respective samples out of the 20 samples analysed. The 95% UCL of the mean concentration was reported to be 1,102 mg/kg and the standard deviation and maximum concentrations were reported to be 723 and 3,000 mg/kg respectively.
- The concentration of mercury was reported to exceed the D-GV (0.15 mg/kg) and GV-high (1 mg/kg) in 5 and 13 respective samples out of the 20 samples analysed. The 95% UCL of the mean concentration was reported to be 4.2 mg/kg and the standard deviation and maximum concentrations were reported to be 2.3 and 6.5 mg/kg respectively.
- The concentration of nickel was reported to exceed the D-GV (21 mg/kg) and GV-high (52 mg/kg) in 11 and 3 respective samples out of the 20 samples analysed. The 95% UCL of the mean concentration was reported to be 55 mg/kg and the standard deviation and maximum concentrations were reported to be 36 and 6170 mg/kg respectively.
- The concentration of zinc was reported to exceed the D-GV (200 mg/kg) and GV-high (410- mg/kg) in 1 and 18 respective samples out of the 20 samples analysed. The 95% UCL of the mean concentration was reported to be 2,006 mg/kg and the standard deviation and maximum concentrations were reported to be 1,248 and 5,600 mg/kg respectively.

Organometallics

The reported TBT data are presented as total concentrations in **Table A** and as normalised (to total organic carbon %, TOC) values in **Table B**.

The normalised concentrations of TBT were reported to be below the adopted criterion in all samples selected for analysis with the single exception of SFM11 0.0-0.1 (9.3 µg/kg) which marginally exceeded the D-GV of 9 µg/kg. Statistical analysis of the TBT dataset identified that the 95% UCL of the mean was 8.4 µg/kg, the standard deviation (3.7 µg/kg) was less than half the criterion and the maximum concentration was less than 250% of the adopted criterion. Thus, it is considered that TBT does not present an unacceptable risk to future on-site receptors within the materials assessed herein and therefore does not require further assessment and/or management.

TRH and BTEX

The reported TRH and BTEX data are presented as total concentrations in **Table A** and as normalised (to total organic carbon %, TOC) values in **Table B**.

The reported BTEX concentrations were below the laboratory LOR in all samples selected for analysis.

The normalised total TRH concentrations were below the adopted criteria in each sample selected for analysis, with the exception of the following:

- SFM01 1.0-1.10 in which TRH >C_{10}-C_{40} was reported at 377 mg/kg following silica gel-clean-up analysis, which marginally exceeded the D-GV criterion of 280 mg/kg, but less than the GV-High criterion of 550 mg/kg. The reported TRH >C_{10}-C_{40} prior to silica-gel analysis was 112 mg/kg, indicating that there was heterogeneity in the sample.

- SFM05 0.0-0.1 in which TRH >C_{10}-C_{40} was reported at 331 mg/kg. However, following silica gel-clean-up analysis, the reported TRH >C_{10}-C_{40} was 95.5 mg/kg and below the adopted D-GV criterion, thus indicating the presence of biogenic TRH, rather than petroleum based TRH within the primary sample.
- SM07 1.5-1.6 in which TRH >C_{10}-C_{40} was reported at 1,340 mg/kg, which exceeds the GV-high criterion of 550 mg/kg. Following silica gel-clean-up analysis, the reported TRH >C_{10}-C_{40} was 529 mg/kg, which exceeds the D-GV criterion of 280 mg/kg, but indicates that a portion of the total TRH within the primary sample is from a biogenic source.

PAHs

The reported PAH data are presented as total concentrations in **Table A** and as normalised (to TOC) values in **Table B**.

The normalised total PAH concentrations were reported to exceed the D-GV (10 mg/kg) and GV-high (50 mg/kg) in 5 and 1 respective samples out of the 20 samples analysed. The 95% UCL of the mean concentration was reported to be 31.5 mg/kg and the standard deviation and maximum concentrations were reported to be 26 and 107 mg/kg respectively.

OCPs and PCBs

The reported OCP and PCB concentrations were below the laboratory LOR in all samples selected for analysis. It is noted that the laboratory LOR was slightly above the adopted criteria for these class of compounds, however based on the low concentrations reported, it is considered unlikely that the material assessed herein are impacted with OCPs and/or PCBs and are therefore considered to not require and further assessment or management.

Volatile Organic Compounds

The reported concentration of all VOC compounds were below the laboratory LOR in all samples selected for analysis.

Asbestos

Asbestos in the form of fragments of ACM were not reported to have been observed within material at any of the sampling locations. It is noted that asbestos sampling activities were completed via the advancement of boreholes, which is not the preferred method given the reduced volumes of spoil that can be inspected as part of the assessment. Trace asbestos fines were detected in samples SFM01 0-1 (0.0006 % w/w), SFM04 0-0.4 (0.0002 % w/w) and SFM07 0-1 (0.0006 % w/w) at concentrations below the adopted screening criterion (0.001 %w/w) applicable to recreational or commercial land-use.

Leachability Analysis

Comparison of the total contaminant concentrations with the NSW EPA (2014) assessment criteria identified a range of samples with total levels of heavy metals (Cr, Pb, Hg Ni), benzo(a)pyrene and PAHs (Total) exceeding the CT1, SCC1 and/or SCC2 thresholds presented in NSW EPA (2014) for waste classification without toxicity characteristic leaching procedure (TCLP) analysis. TCLP extractions were prepared for these samples and subsequently analysed for heavy metals and/or PAHs, with the results presented in **Table F**.

The reported leachable concentration of each heavy metal compound and all Benzo(a)pyrene concentrations were below the TCLP1 criteria for all samples selected for analysis.

Consistent with the observation of coal and ash inclusions within the materials assessed herein, the preliminary TCLP data suggests that the identified total PAHs are largely non-leachable and likely immobilised within the ash/coal matrix within the sediments. As such, it is anticipated that the

General Approval of the Immobilisation of Contaminants in Waste (EPA 1999/05[13]) will in the future be applied in conjunction with additional laboratory data to confirm an appropriate waste classification for off-site disposal of excess excavated material.

7.3 Acid Sulfate Soil Assessment

7.3.1 Field Observations

Field acid sulfate soil (ASS) screening was conducted within boreholes advanced as part of the investigation with the summarised results presented in **Table 8.1** following. Sulfidic odours and sea shells were observed within the majority of sediments assessed herein, as consistent with potential ASS conditions.

Table 8.1: Field ASS Screening Results

Material Type	Largest pH change	Reaction Observations	Acid Sulfate Soil Indication
Gravelly clayey silt, dark-grey to black, saturated (sediment)	8.3	Vigorous fizz/heat	**Positive**

It is noted that the average pre-oxidised pH of the materials was approximately 7.5-8.5 and following oxidation (for approximately 5 mins) – the maximum pH drop was down to 1.2 from 10.6 in sample SFM13 1.5-1.6.

7.3.2 Analytical Results

Detailed laboratory analysis reports and corresponding chain of custody documentation are provided in **Appendix C.** A summary of the results is provided below.

Thirteen representative samples were collected and assessed for the presence of ASS. The results were as follows:

- The pre-oxidised pH (ph-KCl) ranged from 7.8-8.7 and post-oxidised pH (pH-OX) ranged from 2.3-6;
- The peroxide oxidisable sulfur ranged from 0.41 to 3 % S;
- The recorded TPA and TSA ranged from <2 to 1,600 mol H^+/t;
- The recorded TAA were all <2 mol H^+/t and
- The average required liming rate was reported at 62 kg $CaCO_3$ /Tonne soil.

Based on the results presented herein, it is considered that all sediments encountered as part of this investigation comprise PASS, as consistent with sediments in the wider development footprint and reported in the ASSMP (2019).

[13] *1999/05 – General Immobilisation Approval: Ash, ash contaminated natural excavated materials or coal contaminated natural excavated materials*.

8. Site Characterisation / Discussion

Based on the decision making process for assessing urban redevelopment sites detailed in EPA (2017) and discussed in **Section 4.1.5**, the decisions required to be made in order to satisfy the objectives of the assessment are discussed below.

8.1 Have potential impacts within sediments in the investigation footprint been appropriately characterised?

Sediment sampling was conducted on the basis of a 20 m grid systematically placed across the extent of the investigation footprint, which met the minimum lateral sampling density specified in the ASSMP (JBS&G 2019) and EPA (1995). The materials were observed to be largely consistent (visually) across each sampling location to the maximum depth of the investigation. The depth of the investigation ranged from 0.1-2.2 m with an average depth of 0.9 across the investigation area. The materials comprised of gravelly, clayey silt (mud), with varying levels of inclusions composed of coal, ash, organic material, sea shells and metal fragments.

Representative samples of the materials were analysed for a range of identified potential contaminants of concern including heavy metals, PAHs, TRH, BTEX, VOCs, OCP/PCBs, TBT and asbestos. In addition, the materials were assessed for ASS characteristics. On the basis of the results of the field and laboratory QA/QC program, the sediment data was considered to be of an acceptable quality in order to adequately characterise the sediments encountered as part of the investigation and achieve the objectives of the assessment.

It is noted that current survey information that details the relative height and volume of the additional sediment materials assessed herein is currently not yet available. Notwithstanding, it is estimated that the sediment bed levels will need to be reduced by a depth of approximately 2.0-3.0 m below current levels to facilitate the construction of the new Sydney Fish Market building. The maximum depth of the investigation (where site access precluded the mechanical means of sampling with a vibrocorer) did not extend to the maximum anticipated depth of disturbance during construction activities, however it is anticipated the characterisation works covered the envelope above the formerly assumed sediment bed elevation.

It is anticipated that further assessment, consistent with the requirements of the ASSMP and RAP to be undertaken arcoss the whole of the site, will include material at depth within this site portion following confirmation of the relative sediment levels, final basement level construction design and site access been facilitated following the complete demolition works of the former wharf structure.

8.2 Are the materials suitable for on-site retention/re-use?

As consistent with the balance of the site and wider Blackwattle Bay area, elevated heavy metals were reported in sediments across the extent of the investigation footprint. Consistent with previous studies in the Parramatta River/Port Jackson, the primary heavy metals of concern comprise copper, lead and zinc, with population data sets typically exceeding the adopted GV-high sediment contaminant thresholds. Whilst comparison of the current data set does indicate that copper, lead and zinc concentrations in the sediments are somewhat greater than that previously reported in EIS (2017) and UNSW (2017), the results are within the range of concentrations previously identified within the Parramatta River/Port Jackson sediments (Birch et al 2008[14]).

With consideration to the potential for complete exposure pathways, the proposed development will result in sediments that are isolated beneath an overlying suspended concrete structure. These works will result in a situation where there are no opportunities for human contact and given the absence of light and water column disturbance beneath the overlying structure, the sediment will be

[14] *Contaminant Chemistry and toxicity of sediments in Sydney Harbour, Australia: Spatial extent and chemistry – toxicity relationships*. Marine Ecology Progress Series, Vol 363: 71-87, 2008 (Birch et al. 2008)

effectively isolated. Such an outcome will effectively nullify any ecological exposure pathways associated with the impacted sediment and therefore it is considered preferable for the material to remain within the site, rather than to be excavated and removed from the site.

The normalised total PAH concentrations were less than the adopted criteria in 14 out of 20 analysed samples. The maximum concentration was reported in sample SM07 1.5-1.6 at 107.3 mg/kg which exceeded the GV-high criterion of 50 mg/kg. The source of the PAH impacts is considered to be largely associated with ash and coal observed within the materials, where TCLP analysis identified the PAH impacts are non-leachable and likely immobilised within the matrices of these materials. Based on a review of **Figure 3b**, PAH impacts have previously been reported in sediments across the extent of the site, at concentrations up to 76.3 mg/kg (BH14 4.30-4.35). Given that the PAH impacts reported herein are comparable to sediment quality across the balance of the site, and further, likely non bioavailable (given non-leachable nature), it is considered that there were no identified PAH impacts that would preclude the materials from been retained on-site.

The normalised total TRH concentrations were less than the adopted criteria in 16 out 19 analysed samples. The maximum concentration was reported in sample SM07 1.5-1.6 at 529 mg/kg (following silica-gel clean-up) which exceeded the D-GV criterion of 280 mg/kg. Based on a review of **Figure 3c**, TRH impacts have previously been reported in sediments across the extent of the site, at concentrations up to 5,000 mg/kg (PBSS12 0.0-0.4). The TRH impacts reported herein are therefore comparable to, and/or less than the TRH impacts from the balance of the site. As such, it is considered that there were no identified TRH impacts that would preclude the materials from been retained on-site.

The normalised concentrations of TBT were reported to be below the adopted criterion in all samples selected for analysis with the single exception of SFM11 0.0-0.1 (9.3 µg/kg) which marginally exceeded the D-GV of 9 µg/kg. Statistical analysis of the TBT dataset identified that the mean concentration of TBT within the materials assessed was below the D-GV. Therefore, it is considered that there were no identified TBT impacts that would preclude the materials from been retained on-site.

There no reported detections of VOCs (including BTEX), OCPs or PCBs within the materials assessed herein. Therefore, there were no identified impacts of these compounds classes that would preclude the materials from been retained on-site.

Asbestos in the form of fragments of ACM were not reported to have been observed within material at any of the sampling locations. Furthermore, asbestos was not reported by the laboratory in any samples above the screening criteria applicable to recreational or commercial land-uses. Therefore, there were no identified asbestos impacts that would preclude the materials from been retained on-site. Notwithstanding, trace asbestos fines were detected in samples SFM01 0-1 (0.0006 % w/w), SFM04 0-0.4 (0.0002 % w/w) and SFM07 0-1 (0.0006 % w/w) where it is noted that these detections will be required to be recorded on a site asbestos management plan (AMP) to suitably address Work Health and Safety (WHS) requirements during future construction and operational activities. Given the saturated nature of the material, there is not specific requirement for management of the material as there is no prospect of airborne asbestos fibre generation. Management of construction equipment contacting the sediment as designed to manage ASS risks, including wash down following contact will ensure all equipment is appropriately decontaminated with regard to asbestos following completion of works.

8.3 Has the extent of potential acid sulfate soils that require management during remediation/construction activities been appropriately defined?

Based on the results of the investigation, all sediments encountered as part of this investigation comprise of PASS and require appropriate management and treatment during future works that result in their disturbance. As previously identified, sediments within the balance of the site are also

considered PASS. This additional data set should be considered in conjunction with the existing ASSMP (JBS&G 2019) to ensure all available data is used in the appropriate design and implementation of ASS management activities.

8.4 Can a preliminary waste classification be provided for materials that may require off-site disposal during future development activities?

All chemical contaminant data collected for this assessment has been considered with regard to the EPA (2014a and 2014b) Waste classification data to evaluate the material with regard to off-site disposal, should this be required.

As discussed in **Section 7**, there were a number of samples in which heavy metals and PAHs exceeded the CT1, SCC1 and/or SCC2 values presented in EPA (2014a) for classification using only total contaminant concentrations. Based on the results of subsequent TCLP analysis, the current material characterisation data set currently falls within either the General Solid Waste (GSW) or Restricted Solid Waste (RSW) potentially mixed with Special (asbestos) Waste classifications owing to the trace levels of asbestos reported at SFM01 0-1, SFM04 0-0.4 and SFM07 0-1.

It is noted that the materials assessed as consistent with a Restricted Waste classification correspond to samples SFM01 1.0-1.1, SFM07 1.5-1.6 and SFM13 1.0-1.1 in which the reported total lead concentrations were above the SCC1 threshold value.

Based on the observation of coal and ash inclusions within the materials assessed herein, the preliminary TCLP data suggests that PAHs are largely non-leachable and likely immobilised within the ash/coal matrix within the sediments. As such, it is anticipated that the *General Approval of the Immobilisation of Contaminants in Waste (EPA 1999/05)* as related to PAHs will in the future be applied, whereby the corresponding benzo(a)pyrene TCLP concentrations were reported as less than the TCLP1 threshold value, as consistent with GSW.

It is further noted that the presence of TBT reported in sediment samples may further trigger the classification and disposal of waste materials to be completed in accordance with the *Organotin Waste Materials Chemical Control Order 1989* (CCO 1989). As there are current no published threshold values of organotin compounds in EPA (2014), finalisation of classification and disposal requirements will require to be completed in consultation with the NSW EPA.

Assessment of the sediments within the investigation footprint has identified the materials to comprise of Potential Acid Sulfate Soils (PASS). As such, should these materials require off-site disposal, the material will require to be disposed of in accordance with the *NSW Waste Classification Guidelines, Part 4 Acid Sulfate Soils* (EPA 2014b). The material will first be required to be treated to neutralise the acid potential, following which the material will require characterisation and disposal as waste to a licensed facility.

In summary, based on assessment of the current data, if it is proposed to remove the excess sediment material from the site, the following would be required to finalise a waste classification in accordance with EPA requirements:

- Stabilisation of the material's PASS characteristics, as per the advice provided in the ASSMP (JBS&G 2019);
- Characterisation on a batch basis of chemical contaminants identified to be associated with the material, including heavy metals, PAHs, TRH, TBT and asbestos, with consideration of the coal/ash inclusions in the material with regard to the EPA (1995) immobilisation order. Based on the current data set, it is anticipated material may fall within GSW or RSW categories with the potential to be mixed with Special (asbestos) waste;
- Liaison with NSW EPA where TBT concentrations are detected in samples to confirm classification/disposal requirements under the CCO (1989); and

- Preparation of a final waste classification report for submission to the proposed licensed waste facility to confirm approval to dispose of the material, prior to commencement of transportation.

8.5 Is further assessment required?

Based on the above discussions, it is considered that the additional sediments identified under the former Hanson Wharf footprint have been broadly characterised for the identified COPCs and ASS characteristics. Notwithstanding, consistent with the requirements of the RAP (2020) and ASSMP (2019), following confirmation of the relative levels of the materials within the investigation footprint as well as depths of cut required to facilitate the construction of the building, it is anticipated additional investigation of sediment conditions to the proposed depth of disturbance will be required across the whole nSFM site, inclusive of material underlying the additional sediment.

As discussed in **Section 8.4**, should the materials be proposed to be disposed off-site, additional sampling and analysis (including TCLP) will be required upon completion of stabilisation works to confirm the final waste classification of the materials in accordance with the requirements of the RAP (2020) and EPA guidelines.

9. Conclusions and Recommendations

Based on the results of the sediment characterisation assessment and subject to the limitations in **Section 10**, the following summarises the outcomes of the assessment:

- The data obtained is considered reliable to meet the objectives of the assessment;
- Sediment sampling was conducted within the envelope of additional sediment identified beneath the former Hanson Wharf footprint in order to appropriately characterise the additional sediments for the identified COPCs and PASS characteristics at a sampling density consistent with EPA (1995) and the ASSMP (JBS&G 2019).
- The materials were observed to be largely consistent (visually) across each sampling location to the maximum depth of the investigation (2.2 m) to an average depth of 0.9 m. The materials comprised of gravelly, clayey silt (mud), with varying levels of inclusions that included coal, ash, organic material, sea shells and metal fragments.
- Representative samples of the materials were analysed for a range of identified potential contaminants of concern including heavy metals, PAHs, TRH, BTEX, VOCs, OCP/PCBs, TBT and asbestos. As consistent with the balance of the site and wider Blackwattle Bay area, elevated heavy metals, PAHs and TRH were reported in sediments across the extent of the investigation footprint. The impacts of these compounds are considered to be comparable to, and/or less than the corresponding impacts from historical investigations completed over the balance of the site. There were no reported detections of VOCs (including BTEX), OCPs or PCBs within the materials assessed herein. In addition, there no unacceptable risks identified with respect to the reported concentrations of TBT and asbestos. As such, it is considered that there were no identified impacts within the sediments assessed herein that would preclude the materials from been retained on-site.
- Based on the results of the investigation, all sediments encountered as part of this investigation comprise of PASS and require appropriate management and treatment during future works that result in their disturbance.
- Should the materials be disposed off-site, it is anticipated that the materials will be classified as General Solid Waste (GSW) or Restricted Solid Waste (RSW) potentially mixed with Special (asbestos) Waste owing to the trace levels of asbestos reported at SFM01 0-1, SFM04 0-0.4 and SFM07 0-1.

  The materials classified as RSW are represented by samples SFM01 1.0-1.1, SFM07 1.5-1.6 and SFM13 1.0-1.1 in which the reported total lead concentrations are above the SCC1 threshold value.

  Based on the observation of ash and coal within the sediments, it is considered that the *General Approval of the Immobilisation of Contaminants in Waste* (EPA 1999) may be applied for PAH impacts within the materials, where TCLP analysis identified that these compounds are non-leachable and immobilised within the ash/coal matrices.

  Given the reported organotin concentrations identified in sediment samples, liaison with the NSW EPA will be required to finalise waste classifications for off-site disposal of fill material.

  Further, noting that all sediments assessed herein comprise Potential Acid Sulfate Soils (PASS), the materials will require to be disposed of in accordance with the NSW *Waste Classification Guidelines, Part 4 Acid Sulfate Soils* (EPA 2014b).

  In summary, based on assessment of the current data, if it is proposed to remove the excess sediment material from the site, the following would be required to finalise a waste classification in accordance with EPA requirements:

- Stabilisation of the material's PASS characteristics, as per the advice provided in the ASSMP (JBS&G 2019);
- Characterisation on a batch basis of chemical contaminants identified to be associated with the material, including heavy metals, PAHs, TRH, TBT and asbestos, with consideration of the coal/ash inclusions in the material with regard to the EPA (1995) immobilisation order. Based on the current data set, it is anticipated material may fall within GSW or RSW categories with the potential to be mixed with Special (asbestos) waste;
- Liaison with NSW EPA where TBT concentrations are detected in samples to confirm classification/disposal requirements under the CCO (1989); and
- Preparation of a final waste classification report for submission to the proposed licensed waste facility to confirm approval to dispose of the material, prior to commencement of transportation.

- Based on the results and findings of this assessment, it is considered that the sediment materials assessed herein are suitable for on-site retention within the framework outlined in the RAP (JBS&G 2020). Notwithstanding, further assessment of sediments at depth may be required, should the excavation depth (to facilitate the construction of the new Sydney Fish Market building) within the investigation footprint extend beyond the depths reached as part of this investigation.

10. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures

Legend:

- Approximate New Sydney Fish Market Development Boundary
- Approximate Investigation Footprint

JBS&G

Job No: 60081	
Client: Infrastructure NSW	
Version: R01 Rev A	Date: 07-Jan-2021
Drawn By: RF/RH	Checked By: CB

Scale 1:8,000

0 100 200
metres

Coor. Sys. GDA 1994 MGA Zone 56

Sydney Fish Markets

SITE LOCATION

FIGURE 1

File Name: 60081_01_SiteLocation

Legend:

- Approximate New Sydney Fish Market Development Boundary
- Approximate Investigation Footprint
- NSW Cadastre (DFSI, 2020)

JBS&G

Job No: 60081	
Client: Infrastructure NSW	
Version: R01 Rev A	Date 7/01/2021
Drawn By: RH	Checked By: CB
Scale 1:850	

0 10 20
metres

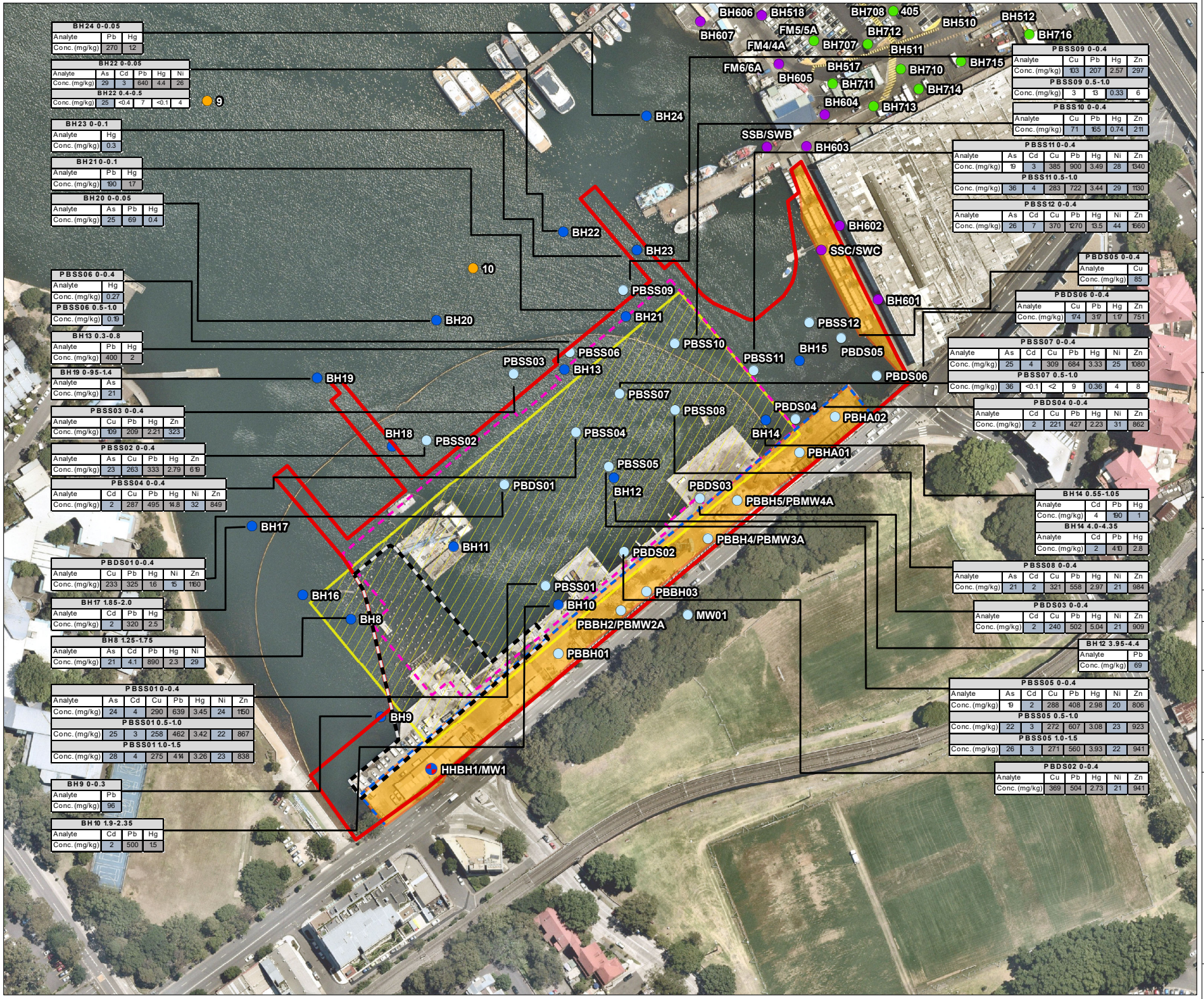
Coord. Sys. GDA 1994 MGA Zone 56

Sydney Fish Markets

SITE LAYOUT AND INVESTIGATION FOOTPRINT

FIGURE 2

File Name: N:\Projects\Infrastructure NSW\60081 New Fish Market Advice\GIS\Maps\R01 Rev A\60081_02_SiteLayout_InvestigationFootprint.mxd
Reference: NSW DFSI, 2019



Legend:

- Approximate Investigation Footprint
- Approximate New Sydney Fish Market Development Boundary
- Approximate Land Area
- Approximate Seawall Extent

Proposed Landuse

- Fish Market Building Envelope
- Approximate Fish Market Basement Footprint

Sample Locations

- BAYS MARKET DISTRICT - EIS (2017)
- BAYS MARKET DISTRICT - EIS (2010b)
- BAYS MARKET DISTRICT - EIS (2010c)
- BAYS MARKET DISTRICT - PB (2009)
- BAYS MARKET DISTRICT - Umwelt (2008)
- Soil Sampling / Monitoring Well - JBS&G 2015

Result — Highlighted value is equal to or exceeds D-GV (ANZAST 2018)

Result — Highlighted value is equal to or exceeds GV-High (ANZAST 2018)

All other results were reported at concentrations less than the laboratory LOR.
As = Arsenic, Cd = Cadium, Cu = Copper, Pb = Lead, Hg = Mercury, Ni = Nickel, Zn = Zinc

JBS&G

Job No: 60081

Client: Infrastructure NSW

Version: R01 Rev A | Date: 07-Jan-2021

Drawn By: RF/RH | Checked By: CB

Scale 1:2,500

0 30 60
metres

Coor. Sys. GDA 1994 MGA Zone 56

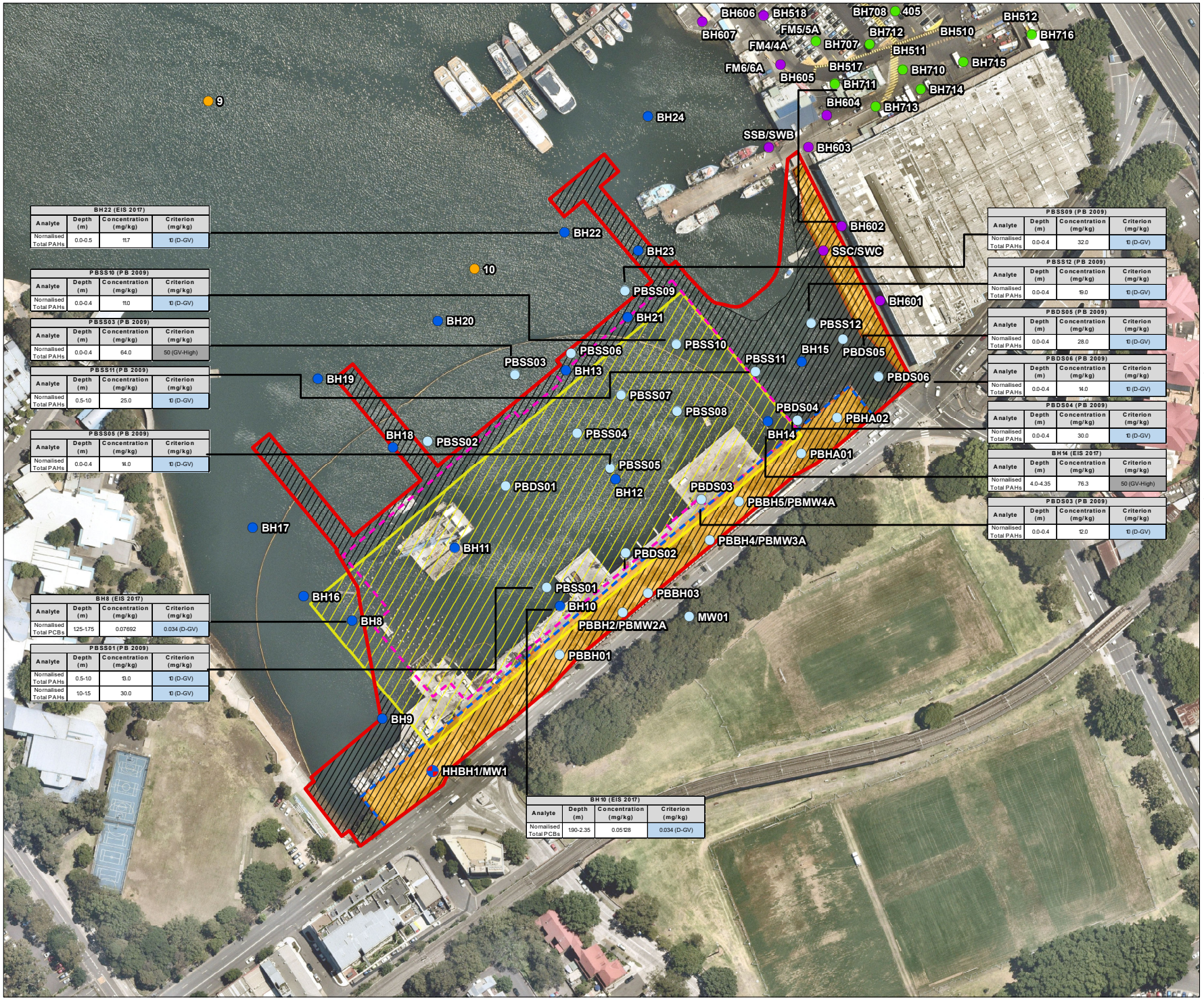
Sydney Fish Market

FORMER SEDIMENT SAMPLE LOCATIONS AND EXCEEDANCES

HEAVY METAL SEDIMENT EXCEEDANCES

FIGURE 3A

File Name: 60081_03A_FormerSampling_HeavyMetals
Reference: Near Map - http://www.nearmap.com.au/. Imagery - 06-12-2020



BH22 (EIS 2017)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.5	11.7	10 (D-GV)

PBSS10 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	11.0	10 (D-GV)

PBSS03 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	64.0	50 (GV-High)

PBSS11 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.5-1.0	25.0	10 (D-GV)

PBSS05 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	14.0	10 (D-GV)

BH8 (EIS 2017)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PCBs	1.25-1.75	0.07692	0.034 (D-GV)

PBSS01 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.5-1.0	13.0	10 (D-GV)
Normalised Total PAHs	1.0-1.5	30.0	10 (D-GV)

BH10 (EIS 2017)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PCBs	1.90-2.35	0.0528	0.034 (D-GV)

PBSS09 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	32.0	10 (D-GV)

PBSS12 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	19.0	10 (D-GV)

PBDS05 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	28.0	10 (D-GV)

PBDS06 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	14.0	10 (D-GV)

PBDS04 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	30.0	10 (D-GV)

BH14 (EIS 2017)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	4.0-4.35	76.3	50 (GV-High)

PBDS03 (PB 2009)			
Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	12.0	10 (D-GV)

Legend:

- New Sydney Fish Market Development Footprint
- Approximate Land Area
- Approximate Seawall Extent

Proposed Landuse

- Fish Market Building Envelope
- Public Domain
- Approximate Fish Market Basement Footprint

Sample Locations

- BAYS MARKET DISTRICT - EIS (2017)
- BAYS MARKET DISTRICT - EIS (2010b)
- BAYS MARKET DISTRICT - EIS (2010c)
- BAYS MARKET DISTRICT - PB (2009)
- BAYS MARKET DISTRICT - Umwelt (2008)
- Soil Sampling / Monitoring Well - JBS&G 2015

Result — Highlighted value is equal to or exceeds D-GV (ANZAST 2018)

Result — Highlighted value is equal to or exceeds GV-High (ANZAST 2018)

JBS&G

Job No: 60081

Client: Infrastructure NSW

Version: R01 Rev A | Date: 06-Jan-2021

Drawn By: RF/RH | Checked By: CB

Scale 1:2,500

0 30 60

metres

Coor. Sys. GDA 1994 MGA Zone 56

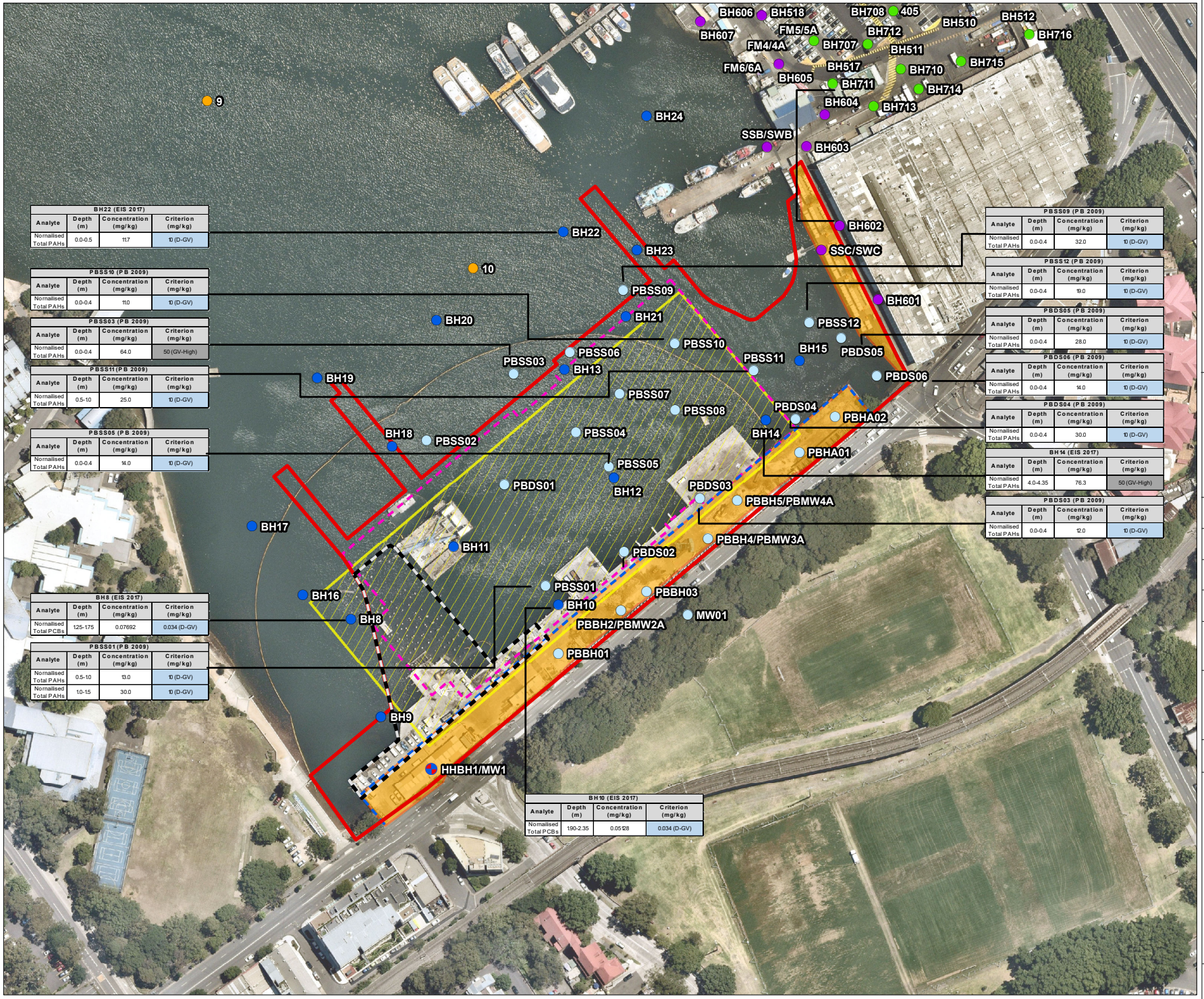
Sydney Fish Market

FORMER SEDIMENT SAMPLE LOCATIONS AND EXCEEDANCES

PAHS AND PCBS SEDIMENT EXCEEDANCES

FIGURE 3B

File Name: 60081_03b_FormerSampling_PAHs_PCBs
Reference: Near Map - http://www.nearmap.com.au/. Imagery - 18-01-2018.



BH22 (EIS 2017)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.5	11.7	10 (D-GV)

PBSS10 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	11.0	10 (D-GV)

PBSS03 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	64.0	50 (GV-High)

PBSS11 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.5-1.0	25.0	10 (D-GV)

PBSS05 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	14.0	10 (D-GV)

BH8 (EIS 2017)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PCBs	1.25-1.75	0.07692	0.034 (D-GV)

PBSS01 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.5-1.0	13.0	10 (D-GV)
Normalised Total PAHs	1.0-1.5	30.0	10 (D-GV)

BH10 (EIS 2017)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PCBs	1.90-2.35	0.0528	0.034 (D-GV)

PBSS09 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	32.0	10 (D-GV)

PBSS12 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	19.0	10 (D-GV)

PBDS05 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	28.0	10 (D-GV)

PBDS06 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	14.0	10 (D-GV)

PBDS04 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	30.0	10 (D-GV)

BH14 (EIS 2017)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	4.0-4.35	76.3	50 (GV-High)

PBDS03 (PB 2009)

Analyte	Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
Normalised Total PAHs	0.0-0.4	12.0	10 (D-GV)

Legend:

- Approximate New Sydney Fish Market Development Boundary
- Approximate Investigation Footprint
- Approximate Seawall Extent
- Approximate Fish Market Basement Footprint

Proposed Landuse

- Fish Market Building Envelope
- Approximate Land Area

Sample Locations

- BAYS MARKET DISTRICT - EIS (2017)
- BAYS MARKET DISTRICT - EIS (2010b)
- BAYS MARKET DISTRICT - EIS (2010c)
- BAYS MARKET DISTRICT - PB (2009)
- BAYS MARKET DISTRICT - Umwelt (2008)
- Soil Sampling / Monitoring Well - JBS&G 2015

Result — Highlighted value is equal to or exceeds D-GV (ANZAST 2018)

Result — Highlighted value is equal to or exceeds GV-High (ANZAST 2018)

JBS&G

Job No: 60081

Client: Infrastructure NSW

Version: R01 Rev A | Date: 07-Jan-2021

Drawn By: RF/RH | Checked By: CB

Scale 1:2,500

0 30 60

metres

Coor. Sys. GDA 1994 MGA Zone 56

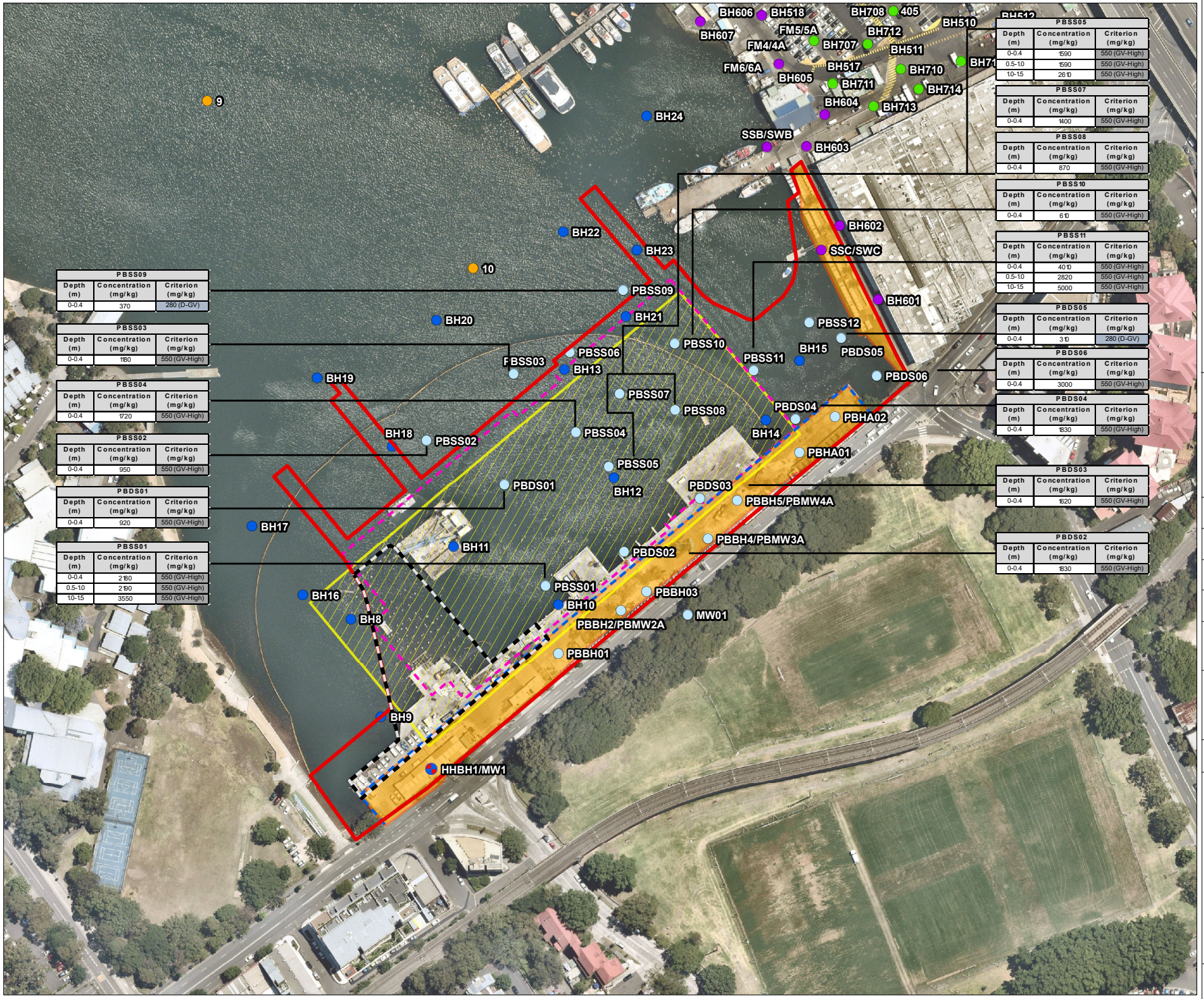
Sydney Fish Market

FORMER SEDIMENT SAMPLE LOCATIONS AND EXCEEDANCES

PAHS AND PCBS SEDIMENT EXCEEDANCES

FIGURE 3B

File Name: 60081_03b_FormerSampling_PAHs_PCBs
Reference: Near Map - http://www.nearmap.com.au/. Imagery - 18-01-2018.



PBSS09		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	370	280 (D-GV)

PBSS03		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	1180	550 (GV-High)

PBSS04		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	1720	550 (GV-High)

PBSS02		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	950	550 (GV-High)

PBDS01		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	920	550 (GV-High)

PBSS01		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	2180	550 (GV-High)
0.5-1.0	2190	550 (GV-High)
1.0-1.5	3550	550 (GV-High)

PBSS05		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	1590	550 (GV-High)
0.5-1.0	1590	550 (GV-High)
1.0-1.5	2610	550 (GV-High)

PBSS07		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	1400	550 (GV-High)

PBSS08		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	870	550 (GV-High)

PBSS10		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	610	550 (GV-High)

PBSS11		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	4010	550 (GV-High)
0.5-1.0	2820	550 (GV-High)
1.0-1.5	5000	550 (GV-High)

PBDS05		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	310	280 (D-GV)

PBDS06		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	3000	550 (GV-High)

PBDS04		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	1830	550 (GV-High)

PBDS03		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	1620	550 (GV-High)

PBDS02		
Depth (m)	Concentration (mg/kg)	Criterion (mg/kg)
0-0.4	1830	550 (GV-High)

Legend:

- Approximate New Sydney Fish Market Development Boundary
- Approximate Investigation Footprint
- Approximate Land Area
- Approximate Seawall Extent

Proposed Landuse

- Fish Market Building Envelope
- Approximate Fish Market Basement Footprint

Sample Locations

- BAYS MARKET DISTRICT - EIS (2017)
- BAYS MARKET DISTRICT - EIS (2010b)
- BAYS MARKET DISTRICT - EIS (2010c)
- BAYS MARKET DISTRICT - PB (2009)
- BAYS MARKET DISTRICT - Umwelt (2008)
- Soil Sampling / Monitoring Well - JBS&G 2015

Result — Highlighted value is equal to or exceeds D-GV (ANZAST 2018)

Result — Highlighted value is equal to or exceeds GV-High (ANZAST 2018)

JBS&G

Job No: 60081

Client: Infrastructure NSW

Version: R01 Rev A | Date: 07-Jan-2021

Drawn By: RF/RH | Checked By: JR

Scale 1:2,500

0 30 60

metres

Coor. Sys. GDA 1994 MGA Zone 56

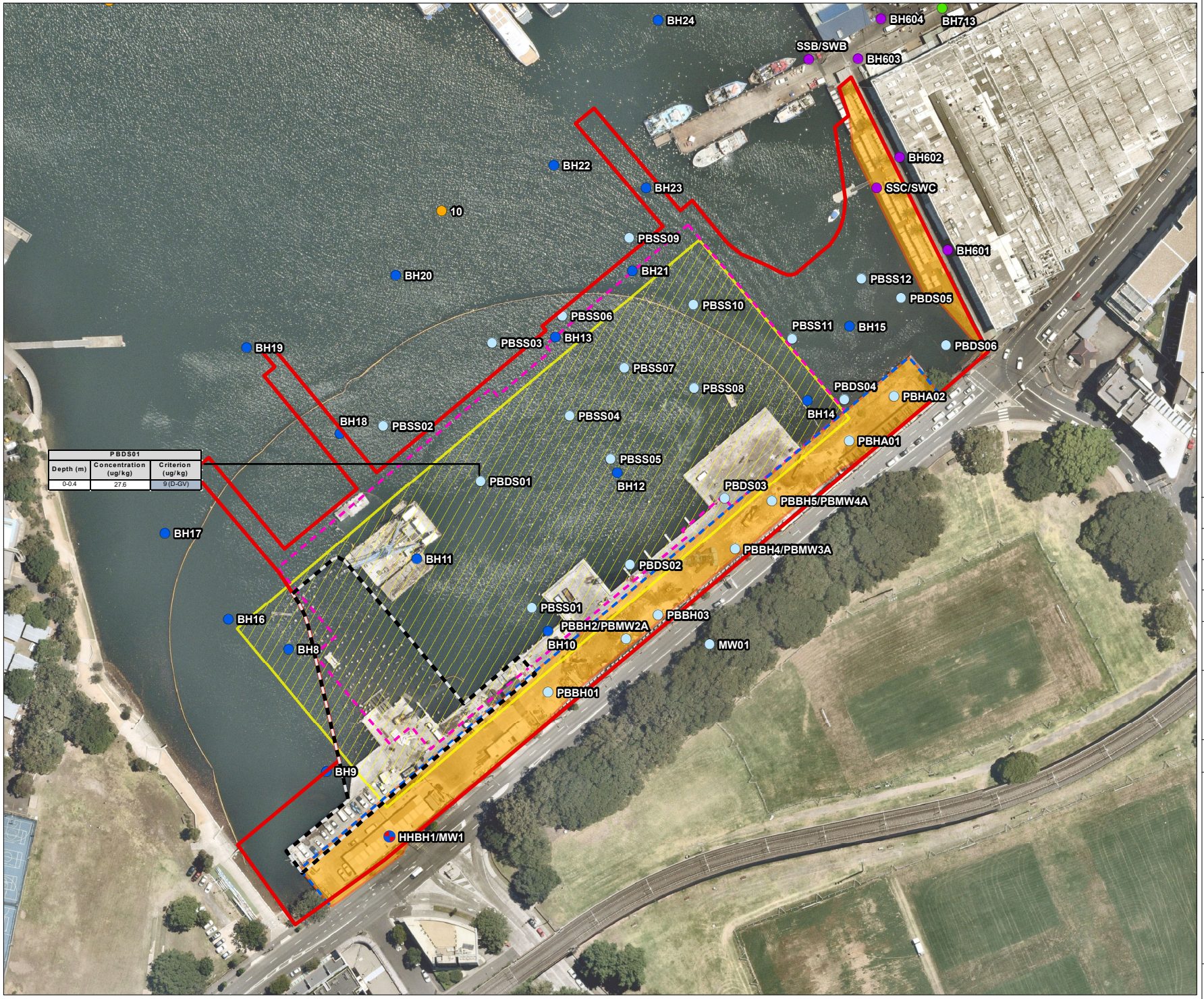
Sydney Fish Market

FORMER SEDIMENT SAMPLE LOCATIONS AND EXCEEDANCES

TPH SEDIMENT EXCEEDANCES

FIGURE 3C

File Name: 60081_03c_FormerSampling_TPH
Reference: Near Map - http://www.nearmap.com.au/. Imagery - 18-01-2018.



Legend:

- Approximate New Sydney Fish Market Development Boundary
- Approximate Investigation Footprint
- Approximate Land Area
- Approximate Seawall Extent

Proposed Landuse

- Fish Market Building Envelope
- Approximate Fish Market Basement Footprint

Sample Locations

- BAYS MARKET DISTRICT - EIS (2017)
- BAYS MARKET DISTRICT - EIS (2010b)
- BAYS MARKET DISTRICT - EIS (2010c)
- BAYS MARKET DISTRICT - PB (2009)
- BAYS MARKET DISTRICT - Umwelt (2008)
- Soil Sampling / Monitoring Well - JBS&G 2015

Result — Highlighted value is equal to or exceeds D-GV (ANZAST 2018)

Result — Highlighted value is equal to or exceeds GV-High (ANZAST 2018)

JBS&G

Job No: 60081

Client: Infrastructure NSW

Version: R01 Rev A	Date: 07-Jan-2021
Drawn By: RF/RH	Checked By: JR

Scale 1:2,000

0 25 50

metres

Coor. Sys. GDA 1994 MGA Zone 56

Sydney Fish Market

FORMER SEDIMENT SAMPLE LOCATIONS AND EXCEEDANCES

TRIBUTYLTIN SEDIMENT EXCEEDANCES

FIGURE 3D

File Name: 60081_03d_FormerSampling_Tributyltin
Reference: Near Map - http://www.nearmap.com.au/. Imagery - 18-01-2018.

Legend:

- New Sydney Fish Market Development Footprint
- Approximate Land Area
- Approximate Seawall Extent

Proposed Landuse

- Fish Market Building Envelope
- Public Domain
- Approximate Fish Market Basement Footprint

Sample Locations

- BAYS MARKET DISTRICT - EIS (2017)
- BAYS MARKET DISTRICT - EIS (2010b)
- BAYS MARKET DISTRICT - EIS (2010c)
- BAYS MARKET DISTRICT - PB (2009)
- BAYS MARKET DISTRICT - Umwelt (2008)
- Soil Sampling / Monitoring Well - JBS&G 2015
- Result — Highlighted value is equal to or exceeds D-GV (ANZAST 2018)
- Result — Highlighted value is equal to or exceeds GV-High (ANZAST 2018)

JBS&G

Job No: 60081

Client: Infrastructure NSW

Version: R01 Rev A	Date: 06-Jan-2021
Drawn By: RF/RH	Checked By: JR

Scale 1:2,000

0 25 50
metres

Coor. Sys. GDA 1994 MGA Zone 56

Sydney Fish Market

FORMER SEDIMENT SAMPLE LOCATIONS AND EXCEEDANCES

TRIBUTYLTIN SEDIMENT EXCEEDANCES

FIGURE 3D

File Name: 60081_03d
Reference: Near Map - http://www.nearmap.com.au/. Imagery - 18-01-2018.

Legend:

- Approximate New Sydney Fish Market Development Boundary
- Approximate Investigation Footprint
- Sediment Sample Locations (2020)
- NSW Cadastre (DFSI, 2020)

JBS&G

Job No: 60081	
Client: Infrastructure NSW	
Version: R01 Rev A	Date 7/01/2021
Drawn By: RH	Checked By: CB

Scale 1:791

0 10 20
metres

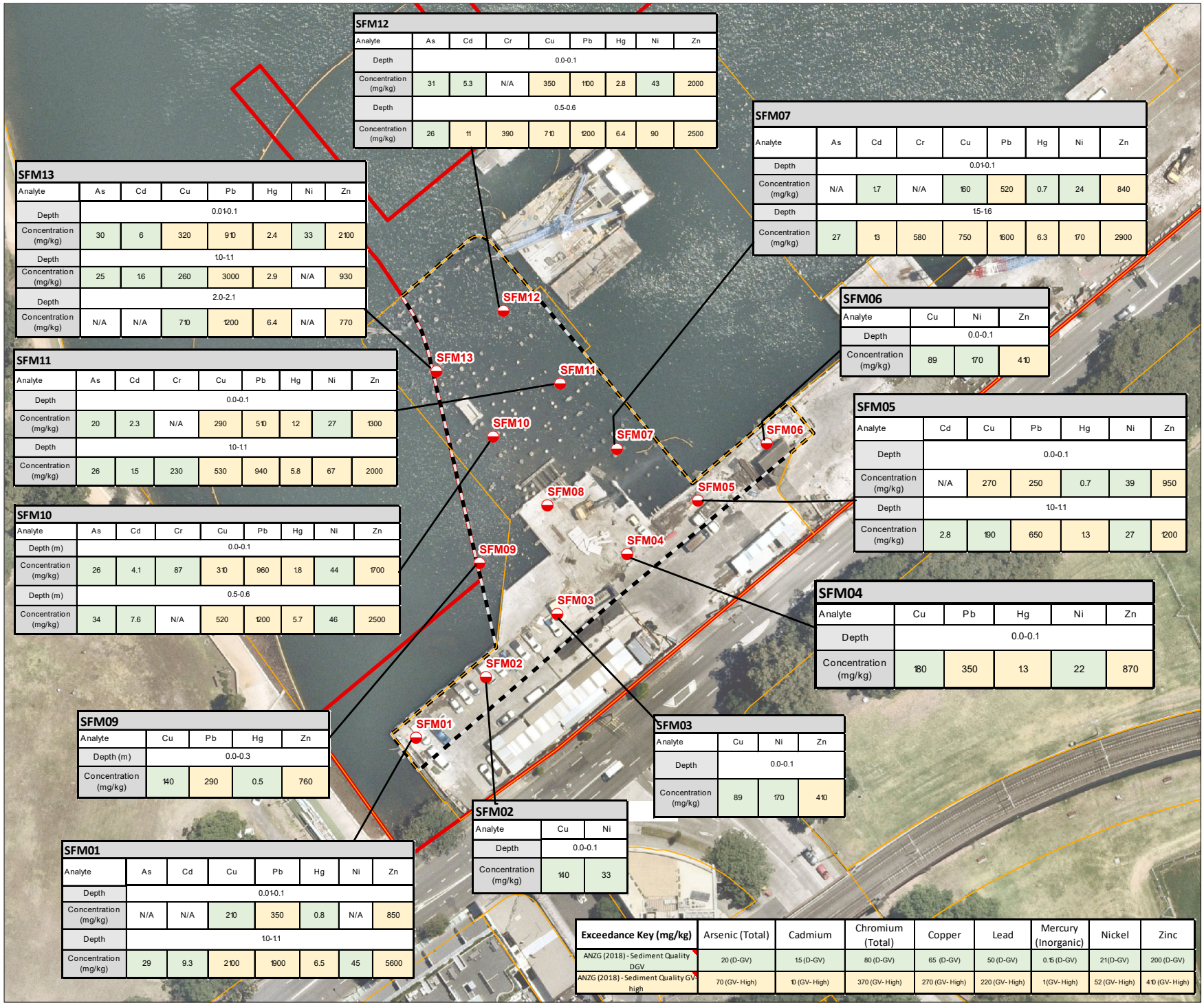
Coord. Sys. GDA 1994 MGA Zone 56

Sydney Fish Markets

SEDIMENT SAMPLING LOCATIONS

FIGURE 4

File Name: N:\Projects\Infrastructure NSW\60081 New Fish Market Advice\GIS\Maps\R01 Rev A\60081_04_SampleLocations.mxd
Reference: NSW DFSI, 2019



SFM12

Analyte	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
Depth	0.0-0.1							
Concentration (mg/kg)	31	5.3	N/A	350	1100	2.8	43	2000
Depth	0.5-0.6							
Concentration (mg/kg)	26	11	390	710	1200	6.4	90	2500

SFM13

Analyte	As	Cd	Cu	Pb	Hg	Ni	Zn
Depth	0.0-0.1						
Concentration (mg/kg)	30	6	320	910	2.4	33	2100
Depth	1.0-1.1						
Concentration (mg/kg)	25	1.6	260	3000	2.9	N/A	930
Depth	2.0-2.1						
Concentration (mg/kg)	N/A	N/A	710	1200	6.4	N/A	770

SFM11

Analyte	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
Depth	0.0-0.1							
Concentration (mg/kg)	20	2.3	N/A	290	510	1.2	27	1300
Depth	1.0-1.1							
Concentration (mg/kg)	26	1.5	230	530	940	5.8	67	2000

SFM10

Analyte	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
Depth (m)	0.0-0.1							
Concentration (mg/kg)	26	4.1	87	310	960	1.8	44	1700
Depth (m)	0.5-0.6							
Concentration (mg/kg)	34	7.6	N/A	520	1200	5.7	46	2500

SFM09

Analyte	Cu	Pb	Hg	Zn
Depth (m)	0.0-0.3			
Concentration (mg/kg)	140	290	0.5	760

SFM01

Analyte	As	Cd	Cu	Pb	Hg	Ni	Zn
Depth	0.0-0.1						
Concentration (mg/kg)	N/A	N/A	210	350	0.8	N/A	850
Depth	1.0-1.1						
Concentration (mg/kg)	29	9.3	2100	1900	6.5	45	5600

SFM02

Analyte	Cu	Ni
Depth	0.0-0.1	
Concentration (mg/kg)	140	33

SFM03

Analyte	Cu	Ni	Zn
Depth	0.0-0.1		
Concentration (mg/kg)	89	170	410

SFM04

Analyte	Cu	Pb	Hg	Ni	Zn
Depth	0.0-0.1				
Concentration (mg/kg)	180	350	1.3	22	870

SFM05

Analyte	Cd	Cu	Pb	Hg	Ni	Zn
Depth	0.0-0.1					
Concentration (mg/kg)	N/A	270	250	0.7	39	950
Depth	1.0-1.1					
Concentration (mg/kg)	2.8	190	650	1.3	27	1200

SFM06

Analyte	Cu	Ni	Zn
Depth	0.0-0.1		
Concentration (mg/kg)	89	170	410

SFM07

Analyte	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn
Depth	0.0-0.1							
Concentration (mg/kg)	N/A	1.7	N/A	160	520	0.7	24	840
Depth	1.5-1.6							
Concentration (mg/kg)	27	13	580	750	1600	6.3	170	2900

Exceedance Key (mg/kg)	Arsenic (Total)	Cadmium	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc
ANZG (2018) - Sediment Quality DGV	20 (D-GV)	1.5 (D-GV)	80 (D-GV)	65 (D-GV)	50 (D-GV)	0.15 (D-GV)	21(D-GV)	200 (D-GV)
ANZG (2018) - Sediment Quality GV-high	70 (GV- High)	10 (GV- High)	370 (GV- High)	270 (GV- High)	220 (GV- High)	1(GV- High)	52 (GV- High)	410 (GV- High)

Legend:

- Approximate New Sydney Fish Market Development Boundary
- Approximate Investigation Footprint
- NSW Cadastre (DFSI, 2020)
- Sediment Sample Locations (2020)

Result — Highlighted value is equal to or exceeds D-GV (ANZAST 2018)

Result — Highlighted value is equal to or exceeds GV-High (ANZAST 2018)

N/A — Highlighted value did not exceed criteria at stated depth.

All other results were reported at concentrations less than the laboratory LOR.

As = Arsenic, Cd = Cadium,
Cu = Copper, Pb = Lead,
Hg = Mercury, Ni = Nickel,
Zn = Zinc

JBS&G

Job No: 60081

Client: Infrastructure NSW

Version: R01 Rev A | Date 7/01/2021

Drawn By: RH | Checked By: CB

Scale 1:1,200

0 10 20
metres

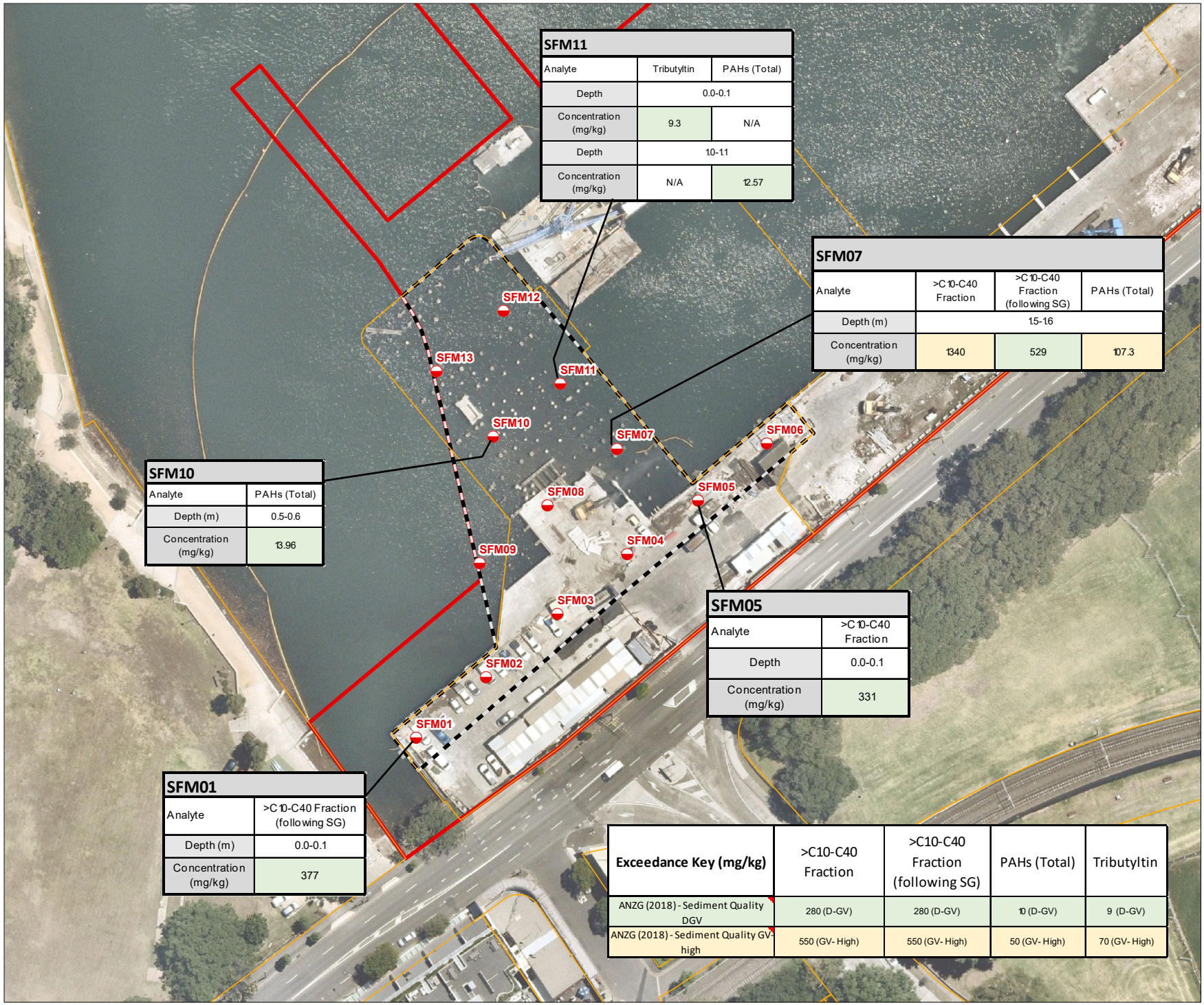
Coord. Sys. GDA 1994 MGA Zone 56

Sydney Fish Markets

SAMPLE EXCEEDANCES - INORGANICS AND HEAVY METALS

FIGURE 5A

File Name: N:\Projects\Infrastructure NSW\60081 New Fish Market Advice\GIS\Maps\R01 Rev A\60081_05a_SampleExceedances_Inorganics_Metals.mxd
Reference: NSW DFSI, 2019



Legend:

- Approximate New Sydney Fish Market Development Boundary
- Approximate Investigation Footprint
- NSW Cadastre (DFSI, 2020)
- Sediment Sample Locations (2020)

Result — Highlighted value is equal to or exceeds D-GV (ANZAST 2018)

Result — Highlighted value is equal to or exceeds GV-High (ANZAST 2018)

N/A — Highlighted value did not exceed criteria at stated depth.

All other results were reported at concentrations less than the laboratory LOR.

JBS&G

Job No: 60081

Client: Infrastructure NSW

Version: R01 Rev A | Date 7/01/2021

Drawn By: RH | Checked By: CB

Scale 1:1,200

0 10 20
metres

Coord. Sys. GDA 1994 MGA Zone 56

Sydney Fish Markets

SAMPLE EXCEEDANCES - NORMALISED ORGANICS

FIGURE 5A

File Name: N:\Projects\Infrastructure NSW\60081 New Fish Market Advice\GIS\Maps\R01 Rev A\60081_05b_SampleExceedances_Organics.mxd
Reference: NSW DFSI, 2019

Appendix A – Summary Analytical Tables

Table A: Contaminant Total Concentrations
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

			Metals & Metalloids									TPHs (NEPC 1999)					TPHs (NEPC 1999) - Silica Gel				TRHs (NEPC 2013)							s (NEPC 2013) - Silica			BTEXN						
			Arsenic (Total)	Cadmium	Chromium (Cr VI)	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Total)	C10-C14 Fraction (SG)	C15-C28 Fraction (SG)	C29-C36 Fraction (SG)	C10 - C36 Fraction (Total) (SG)	>C10-C16 Fraction	>C16-C34 Fraction	>C34-C40 Fraction	>C10-C40 Fraction (Total)	>C10-C16 less Naphthalene (F2)	C6-C10 Fraction	C6-C10 less BTEX (F1)	>C10-C16 Fraction (SG)	>C16-C34 Fraction (SG)	>C34-C40 Fraction (SG)	Benzene	Ethylbenzene	Toluene	Xylene (o)	Xylene (m & p)	Xylene (Total)	Naphthalene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			2	0.4	1	1	1	1	0.1	1	1	20	20	50	50	50	50	100	100	50	50	100	100	50	50	20	20	50	100	100	0.1	0.1	0.1	0.1	0.2	0.3	0.1
ANZG (2018) - Sediment Quality DGV			20	1.5	80	80	65	50	0.15	21	200																										
ANZG (2018) - Sediment Quality GV-high			70	10	370	370	270	220	1	52	410																										
Field_ID	**LocCode**	**Sampled_Date-Time**																																			
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	15	1.4	-	32	210	350	0.8	12	850	<20	<20	370	200	570	-	-	-	-	<50	630	120	750	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	29	9.3	-	58	2100	1900	6.5	45	5600	<20	<20	630	240	870	67	1900	590	2557	<50	960	160	1120	<50	<20	<20	<50	3400	340	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	3.7	<0.4	-	25	140	35	<0.1	33	180	<20	<20	160	82	242	-	-	-	-	<50	300	<100	300	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	4.2	<0.4	-	15	43	110	<0.1	13	210	<20	<20	95	<50	95	-	-	-	-	<50	210	<100	210	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC02	SFM03 0.0-0.1	30/11/2020	3.7	<0.4	-	23	89	85	0.1	18	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
QC02A	SFM03 0.0-0.1	30/11/2020	<4	<0.4	-	10	54	170	0.1	11	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	11	1	-	34	180	350	1.3	22	870	<20	41	350	75	466	-	-	-	-	54	590	250	894	54	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	11	0.6	-	53	270	250	0.7	39	950	<20	120	1100	1200	2420	<50	380	440	820	160	2000	720	2880	160	<20	<20	<50	750	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	17	2.8	-	52	190	650	1.3	27	1200	<20	98	1200	210	1508	<50	470	510	980	170	1900	560	2630	170	<20	<20	51	870	140	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	6.1	<0.4	-	16	120	130	0.2	12	300	<100	130	1000	780	1910	<50	280	<100	280	<250	1600	<500	1600	<250	<100	<100	63	560	<100	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<0.5
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	12	1.7	-	59	160	520	0.7	24	840	<20	29	150	<50	179	-	-	-	-	<50	260	<100	260	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM07 1.5-1.6	SFM07 0.0-0.2	30/11/2020	27	13	<1	580	750	1600	6.3	170	2900	<100	680	7700	2000	10,380	260	2800	2100	5160	1000	11,000	1400	13,400	1000	<100	<100	480	4300	510	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<2.5 - 4.5
SFM09 0.0-0.1	SFM07 0.0-0.3	30/11/2020	6.8	0.9	-	23	140	290	0.5	13	760	<20	40	170	<50	210	-	-	-	-	<50	290	<100	290	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM10 0.0-0.1	SFM07 0.0-0.4	30/11/2020	26	4.1	-	87	310	960	1.8	44	1700	<20	36	250	<50	286	-	-	-	-	<50	410	<100	410	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM10 0.5-0.6	SFM07 0.0-0.5	30/11/2020	34	7.6	-	59	520	1200	5.7	46	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5
SFM11 0.0-0.1	SFM07 0.0-0.6	30/11/2020	20	2.3	-	44	290	510	1.2	27	1300	<100	130	940	89	1159	<50	610	540	1150	130	1600	240	1970	130	<100	<100	61	1000	110	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<0.5
SFM11 1.0-1.1	SFM07 0.0-0.7	30/11/2020	26	7.3	<1	230	530	940	5.8	67	2000	<20	70	760	150	980	-	-	-	-	95	1000	120	1215	95	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM12 0.0-0.1	SFM07 0.0-0.8	30/11/2020	31	5.3	-	76	350	1100	2.8	43	2000	<20	36	350	88	474	-	-	-	-	<50	540	<100	540	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
SFM12 0.5-0.6	SFM07 0.0-0.9	30/11/2020	26	11	<1	390	710	1200	6.4	90	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
SFM13 0.0-0.1	SFM07 0.0-0.10	30/11/2020	30	6	-	70	310	910	2.4	33	2100	<100	<100	760	<250	760	-	-	-	-	<250	1300	<500	1300	<250	<100	<100	-	-	-	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<0.5
QC01	SFM07 0.0-0.11	30/11/2020	25	3.3	-	59	320	670	1.8	27	1500	<20	24	200	<50	224	-	-	-	-	<50	340	<100	340	<50	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5
QC01A	SFM07 0.0-0.12	30/11/2020	11	1	-	23	180	250	1.1	10	520	<25	<50	350	480	-	-	-	-	-	<50	700	260	960	<50	<25	<25	-	-	-	<0.2	<1	<0.5	<1	<2	<3	<0.1
SFM13 1.0-1.1	SFM07 0.0-0.13	30/11/2020	25	1.6	-	22	260	3000	2.9	16	930	<20	<100	1500	<250	1500	<50	760	370	1130	<250	2100	<500	2100	<250	<20	<20	<50	1100	<100	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5 - 0.7
SFM13 2.0-2.1	SFM07 0.0-0.14	30/11/2020	14	1	-	21	250	450	1.8	18	770	<20	47	990	160	1197	-	-	-	-	79	1300	130	1509	79	<20	<20	-	-	-	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5

Table A: Contaminant Total Concentrations
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

			Polycyclic Aromatic Hydrocarbons																	Organochlorine Pesticides																													
			Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (medium bound)*	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	PAHs (Total)	Pyrene	4,4-DDE	Aldrin	Aldrin + Dieldrin (Sum of Total)	alpha-BHC	beta-BHC	Chlordane	DDD	DDT	Dieldrin	DDT+DDE+DDD (Sum of Total)	delta-BHC	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.05	0.5	0.5	0.1	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1
ANZG (2018) - Sediment Quality DGV																																															
ANZG (2018) - Sediment Quality GV-high																																															
Field_ID	**LocCode**	**Sampled_Date-Time**																																													
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	1.2	1.8	2.5	1.2	1.1	1.4	1.1	<0.5	2.6	<0.5	0.8	1.2	14.8	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	<0.5	<0.5	1	3.6	6	8.4	4.6	4.3	4.3	2.9	0.8	8.5	<0.5	2.7	3.7	53.4	11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	0.6	1	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	1.9	0.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
QC02	SFM03 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02A	SFM03 0.0-0.1	30/11/2020	<0.1	0.2	0.2	0.9	0.87	1.3	-	0.5	-	0.8	0.1	1.1	<0.1	0.5	0.5	8.6	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	0.6	0.6	1	<0.5	<0.5	<0.5	<0.5	<0.5	1	<0.5	<0.5	0.6	3.7	0.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	0.6	1	<0.5	<0.5	0.6	<0.5	<0.5	1	<0.5	<0.5	<0.5	3.2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	0.6	1	<0.5	<0.5	0.7	<0.5	<0.5	0.9	<0.5	<0.5	0.6	4.2	1.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	0.6	1	0.5	<0.5	0.6	<0.5	<0.5	1.1	<0.5	<0.5	0.8	4.7	1.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM07 1.5-1.6	SFM07 0.0-0.2	30/11/2020	10	5.3	30	76	74	110	51	38	73	70	13	230	21	37	150	1073	190	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM09 0.0-0.1	SFM07 0.0-0.3	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	1.2	0.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM10 0.0-0.1	SFM07 0.0-0.4	30/11/2020	<0.5	<0.5	<0.5	0.6	0.8	1.3	0.6	<0.5	0.9	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	5.6	1.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM10 0.5-0.6	SFM07 0.0-0.5	30/11/2020	1.1	0.9	2.7	10	11	17	7.7	6.2	11	9	2	30	1.7	5.8	14	139.6	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM11 0.0-0.1	SFM07 0.0-0.6	30/11/2020	<0.5	<0.5	0.8	2.8	4.4	6.8	3.1	2.6	4.9	2.3	1	5.4	<0.5	2.3	2	37.8	6.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM11 1.0-1.1	SFM07 0.0-0.7	30/11/2020	0.8	0.8	3.1	9.2	9.6	14	7	5.2	9.5	8.8	1.7	28	1.3	4.7	12	125.7	24	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM12 0.0-0.1	SFM07 0.0-0.8	30/11/2020	<0.5	<0.5	<0.5	1.2	1.6	2.3	1.1	0.8	1.6	0.8	<0.5	2.6	<0.5	0.8	0.8	14.3	3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM12 0.5-0.6	SFM07 0.0-0.9	30/11/2020	1.3	1.7	4.7	14	17	26	12	8.4	17	16	3.3	45	2	8.2	16	204.6	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM13 0.0-0.1	SFM07 0.0-0.10	30/11/2020	<0.5	<0.5	<0.5	1.4	2.1	3	1.5	1.2	2.4	1	<0.5	2.2	<0.5	1.2	0.9	17.6	3.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
QC01	SFM07 0.0-0.11	30/11/2020	<0.5	<0.5	<0.5	0.9	1.1	1.7	0.9	0.5	1.1	0.7	<0.5	2.5	<0.5	<0.5	1.4	11.5	2.4	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
QC01A	SFM07 0.0-0.12	30/11/2020	<0.1	0.5	0.7	2.2	3.1	4.4	-	1.9	-	2	0.4	3.8	0.2	1.6	1.8	-	4.7	<0.1	<0.1	<0.2	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	-			
SFM13 1.0-1.1	SFM07 0.0-0.13	30/11/2020	<0.5	2.3	5.3	36	34	52	19	16	34	33	6.7	79	0.8	16	3.6	362.4	76	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM13 2.0-2.1	SFM07 0.0-0.14	30/11/2020	1.8	1.6	9.3	22	19	29	12	8.8	17	19	3.5	51	4.2	8.7	30	256.9	49	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1

Table A: Contaminant Total Concentrations
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

			Chlorinated Alkanes																		Chlorinated Alkenes											Solvents	Polychlorinated Biphenyls								Monocyclic Aromatic Hydrocarbons				
			1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane	1,1-dichloroethene	1,3-dichloropropene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	2-Propanone (Acetone)	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Total)	1,2,4-trimethyl benzene	1,3,5-trimethyl benzene	Bromobenzene	Isopropylbenzene	Styrene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5	0.5	0.5
ANZG (2018) - Sediment Quality DGV																																										
ANZG (2018) - Sediment Quality GV-high																																										
Field_ID	**LocCode**	**Sampled_Date-Time**																																									
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
QC02	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02A	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	<2.5	<2.5
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
SFM07 1.5-1.6	SFM07 0.0-0.2	30/11/2020	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	<2.5	<2.5
SFM09 0.0-0.1	SFM07 0.0-0.3	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
SFM10 0.0-0.1	SFM07 0.0-0.4	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
SFM10 0.5-0.6	SFM07 0.0-0.5	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM11 0.0-0.1	SFM07 0.0-0.6	30/11/2020	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	<2.5	<2.5
SFM11 1.0-1.1	SFM07 0.0-0.7	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
SFM12 0.0-0.1	SFM07 0.0-0.8	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
SFM12 0.5-0.6	SFM07 0.0-0.9	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM13 0.0-0.1	SFM07 0.0-0.10	30/11/2020	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	<2.5	<2.5
QC01	SFM07 0.0-0.11	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC01A	SFM07 0.0-0.12	30/11/2020	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<2	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1
SFM13 1.0-1.1	SFM07 0.0-0.13	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-
SFM13 2.0-2.1	SFM07 0.0-0.14	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-

Table A: Contaminant Total Concentrations
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

			Miscellaneous Hydrocarbons											Trihalomethanes				Organometallics	Other		
			1,2-dibromoethane	2-Butanone (MEK)	4-Methyl-2-pentanone (MIBK)	Bromomethane	Dibromomethane	Iodomethane	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Bromodichloromethane	Chloroform	Dibromochloromethane	Tribromomethane	Trubutyltin	% Moisture 103oC	Moisture	Total Organic Carbon
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	%	%	%
EQL			0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5	1		0.1
ANZG (2018) - Sediment Quality DGV																					
ANZG (2018) - Sediment Quality GV-high																					
Field_ID	**LocCode**	**Sampled_Date-Time**																			
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	-	18
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	57 - 58	-	15
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	33	-	1.3
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	27	-	1.3
QC02	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-
QC02A	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.5	-
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	11	47	-	7.2
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54 - 55	-	8.7
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5		46 - 49	-	22
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.05	<2.5	<2.5	<2.5	<2.5	11	18 - 23	-	45
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	60	-	3.7
SFM07 1.5-1.6	SFM07 0.0-0.2	30/11/2020	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.05	<2.5	<2.5	<2.5	<2.5	<0.5	49 - 53	-	14
SFM09 0.0-0.1	SFM07 0.0-0.3	30/11/2020	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	65	-	20
SFM10 0.0-0.1	SFM07 0.0-0.4	30/11/2020	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	45	-	15
SFM10 0.5-0.6	SFM07 0.0-0.5	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	-	19
SFM11 0.0-0.1	SFM07 0.0-0.6	30/11/2020	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.05	<2.5	<2.5	<2.5	<2.5	93	36 - 43	-	14
SFM11 1.0-1.1	SFM07 0.0-0.7	30/11/2020	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	42 - 47	-	30
SFM12 0.0-0.1	SFM07 0.0-0.8	30/11/2020	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	42	-	13
SFM12 0.5-0.6	SFM07 0.0-0.9	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50 - 52	-	12
SFM13 0.0-0.1	SFM07 0.0-0.10	30/11/2020	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.05	<2.5	<2.5	<2.5	<2.5	42	56	-	13
QC01	SFM07 0.0-0.11	30/11/2020	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	6.1	57	-	-
QC01A	SFM07 0.0-0.12	30/11/2020	<1	-	-	<1	<1	-	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	38	-	9.7	-
SFM13 1.0-1.1	SFM07 0.0-0.13	30/11/2020	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	41 - 48	-	7.9
SFM13 2.0-2.1	SFM07 0.0-0.14	30/11/2020	-	-	-	-	-	-	-	-	-	-	<0.05	-	-	-	-	-	49	-	6.3

Table B: Normalised Organics
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

						Normalised Organanic and Organometallic Compounds										
			C6-C10 Fraction	>C10-C40 Fraction	>C10-C40 Fraction (following SG)	PAHs (Total)	4,4-DDE	Chlordane	DDD	DDT	Dieldrin	Endrin	Lindane	PCBs (Total)	Tributyltin	Total Organic Carbon	Normalised to %OC
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg	%	%
EQL			20	50	100	0.5	0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.1	0.5	0.1	0.1
ANZG (2018) - Sediment Quality DGV			280	280	280	10	0.0014	0.0045	0.0035	0.0012	0.0028	0.0027	0.0009	0.034	9		
ANZG (2018) - Sediment Quality GV-high			550	550	550	50	0.0070	0.0090	0.0090	0.0050	0.0070	0.0600	0.0014	0.28	70		
Field_ID	**LocCode**	**Sampled_Date-Time**															
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	<2	75	-	1.48	-	-	-	-	-	-	-	-	-	18	10
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	<2	112	376.5	5.34	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	15	10
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	<15	230.8	-	<0.5	<0.03	<0.07	<0.03	<0.03	<0.03	<0.03	<0.03	<0.38	-	1.3	1.3
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	<15	161.5	-	1.4615385	<0.03	<0.07	<0.03	<0.03	<0.03	<0.03	<0.03	<0.38	-	1.3	1.3
QC02	SFM03 0.0-0.1	30/11/2020	-	-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-
QC02A	SFM03 0.0-0.1	30/11/2020	-	-	-	6.6153846	-	-	-	-	-	-	-	-	-	-	1.3
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	<2.7	124.2	-	0.5138889	<0.006	<0.01	<0.006	<0.006	<0.006	<0.006	<0.006	<0.06	1.53	7.2	7.2
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	<2.2	331	95.5	0.3678161	-	-	-	-	-	-	-	-	-	8.7	8.7
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	<2	263	106.1	0.42	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05		22	10
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	<10	160	67.3	0.47	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	1.10	45	10
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	<5.4	70.27	-	0.1621622	<0.006	<0.02	<0.006	<0.006	<0.006	<0.006	<0.006	<0.13	-	3.7	3.7
SFM07 1.5-1.6	SFM07 0.0-0.2	30/11/2020	<10	1340	529	107.3	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.05	14	10
SFM09 0.0-0.1	SFM07 0.0-0.3	30/11/2020	<2	29	-	0.12	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	-	20	10
SFM10 0.0-0.1	SFM07 0.0-0.4	30/11/2020	<2	41	-	0.56	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	-	15	10
SFM10 0.5-0.6	SFM07 0.0-0.5	30/11/2020	-	-	-	13.96	-	-	-	-	-	-	-	-	-	19	10
SFM11 0.0-0.1	SFM07 0.0-0.6	30/11/2020	<10	197	117.1	3.78	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	9.30	14	10
SFM11 1.0-1.1	SFM07 0.0-0.7	30/11/2020	<2	121.5	-	12.57	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	-	30	10
SFM12 0.0-0.1	SFM07 0.0-0.8	30/11/2020	<2	54	-	1.43	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	-	13	10
SFM12 0.5-0.6	SFM07 0.0-0.9	30/11/2020	-	-	-	20.46	-	-	-	-	-	-	-	-	-	12	10
SFM13 0.0-0.1	SFM07 0.0-0.10	30/11/2020	<10	130	-	1.76	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	4.20	13	10
QC01	SFM07 0.0-0.11	30/11/2020	<2	34	-	1.15	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	0.61	-	10
QC01A	SFM07 0.0-0.12	30/11/2020	<2.5	96	-	-	<0.005	-	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	3.80	-	10
SFM13 1.0-1.1	SFM07 0.0-0.13	30/11/2020	<2.5	265.8	148.4	45.873418	<0.006	<0.01	<0.006	<0.006	<0.006	<0.006	<0.006	<0.06	-	7.9	7.9
SFM13 2.0-2.1	SFM07 0.0-0.14	30/11/2020	<3.1	239.5	-	40.777778	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.07	-	6.3	6.3

Table C: Asbestos Analytical Results
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

			Asbestos									
			Approx. Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Mass ACM	Mass Asbestos in ACM	Mass FA	Mass Asbestos in FA	Mass AF	Mass Asbestos in AF	Mass Asbestos in FA & AF
			g	%w/w	%w/w	g	g	g	g	g	g	g
EQL												
HIL - C (recreational)				0.02	0.001							
HIL-D (commercial / Industrial)				0.05	0.001							
Field_ID	**LocCode**	**Sampled_Date-Time**										
SFM01 0-1	SFM01 0-1	30/11/2020	284	0	0.0006	0	0	0	0	0.0016	0.0016	0.0016
SFM02 0-0.5	SFM02 0-0.5	30/11/2020	299	0	0	0	0	0	0	0	0	0
SFM03 0-0.6	SFM03 0-0.6	30/11/2020	506	0	0	0	0	0	0	0	0	0
AS_QC01	SFM03 0-0.6	30/11/2020	396	0	0	0	0	0	0	0	0	0
AS-QC01A	SFM03 0-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-
SFM04 0-0.4	SFM04 0-0.4	30/11/2020	251	0	0.0002	0	0	0	0	0.0006	0.0006	0.0006
SFM05 0-1	SFM05 0-1	30/11/2020	293	0	0	0	0	0	0	0	0	0
SFM06 0-1	SFM06 0-1	30/11/2020	378	0	0	0	0	0	0	0	0	0
SFM07 0-1	SFM07 0-1	30/11/2020	287	0	0.0006	0	0	0	0	0.0016	0.0016	0.0016
SFM07 1-1.6	SFM07 1-1.6	30/11/2020	184	0	0	0	0	0	0	0	0	0
SFM09 0.0-0.6	SFM09 0.0-0.6	30/11/2020	139	0	0	0	0	0	0	0	0	0
SFM10 0.0-0.6	SFM10 0.0-0.6	30/11/2020	266	0	0	0	0	0	0	0	0	0
SFM11 0.0-1.0	SFM11 0.0-1.0	30/11/2020	327	0	0	0	0	0	0	0	0	0
SFM12 0.0-0.6	SFM12 0.0-0.6	30/11/2020	252	0	0	0	0	0	0	0	0	0
SFM13 0-1	SFM13 0-1	30/11/2020	252	0	0	0	0	0	0	0	0	0
SFM13 1-2	SFM13 1-2	30/11/2020	257	0	0	0	0	0	0	0	0	0

Table D - Acid Sulfate Soil Analytical Results
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Characterisation Assessment

	Acid Sulphate Soils						
	Liming rate - SPOCAS	pH-KCL	pH-OX	TAA	TPA	TSA	SPOS
	KG CACO3/T	ph Units	ph Units	mol H+/t	mol H+/t	mol H+/t	%S
EQL	1	0.1	0.1	2	2	2	0.02
Fine (>1000 T)					18	18	0.03
Fine (1-1000 T)					62	62	0.1

Field_ID	LocCode	Sampled_Date-Time							
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	52	8.5	2.9	<2	440	440	1.9
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	16	8.4	6	<2	< 2	< 2	0.99
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	25	8.5	3.2	<2	230	230	0.89
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	32	7.9	2.9	<2	360	360	0.88
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	32	8.7	5.1	<2	25	25	2
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	34	8.8	2.6	<2	560	560	0.41
SFM07 1.0-1.1	SFM07 1.0-1.1	30/11/2020	120	7.8	2.3	<2	1400	1400	3
SFM09 0.0-0.1	SFM09 0.0-0.1	30/11/2020	100	7.8	2.3	<2	1600	1600	1.4
SFM10 0.0-0.1	SFM10 0.0-0.1	30/11/2020	83	8.4	2.4	<2	880	880	2.5
SFM11 0.5-0.6	SFM11 0.5-0.6	30/11/2020	88	8.5	2.4	<2	930	930	2.7
SFM12 0.0-0.1	SFM12 0.0-0.1	30/11/2020	95	8.2	2.4	<2	1100	1100	2.6
SFM13 1.0-1.1	SFM13 1.0-1.1	30/11/2020	41	8.5	5.9	<2	< 2	< 2	2.6
SFM13 2.0-2.1	SFM13 2.0-2.1	30/11/2020	86	8.7	2.3	<2	1000	1000	2.3

Table E: Contaminant Totals Waste
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

			Metals & Metalloids									TPHs (NEPC 1999)					TPHs (NEPC 1999) - Silica Ge				TRHs (NEPC 2013)							s (NEPC 2013) - Silica		
			Arsenic (Total)	Cadmium	Chromium (Cr VI)	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Total)	C10-C14 Fraction (SG)	C15-C28 Fraction (SG)	C29-C36 Fraction (SG)	C10 - C36 Fraction (Total) (SG)	>C10-C16 Fraction	>C16-C34 Fraction	>C34-C40 Fraction	>C10-C40 Fraction (Total)	>C10-C16 less Naphthalene (F2)	C6-C10 Fraction	C6-C10 less BTEX (F1)	>C10-C16 Fraction (SG)	>C16-C34 Fraction (SG)	>C34-C40 Fraction (SG)
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			2	0.4	1	1	1	1	0.1	1	1	20	20	50	50	50	50	100	100	50	50	100	100	50	50	20	20	50	100	100
NSW 2014 General Solid Waste CT1 (No Leaching)			100	20	100	100		100	4	40		650				10000														
NSW 2014 General Solid Waste SCC1 (with leached)			500	100	1900	1900		1500	50	1050		650				10000														
NSW 2014 Restricted Solid Waste CT2 (No Leaching)			400	80	400	400		400	16	160		2600				40000														
NSW 2014 Restricted Solid Waste SCC2 (with leached)			2000	400	7600	7600		6000	200	4200		2600				40000														
Field_ID	**LocCode**	**Sampled_Date-Time**																												
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	15	1.4	-	32	210	350	0.8	12	850	<20	<20	370	200	570	-	-	-	-	<50	630	120	750	<50	<20	<20	-	-	-
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	29	9.3	-	58	2100	1900	6.5	45	5600	<20	<20	630	240	870	67	1900	590	2557	<50	960	160	1120	<50	<20	<20	<50	3400	340
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	3.7	<0.4	-	25	140	35	<0.1	33	180	<20	<20	160	82	242	-	-	-	-	<50	300	<100	300	<50	<20	<20	-	-	-
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	4.2	<0.4	-	15	43	110	<0.1	13	210	<20	<20	95	<50	95	-	-	-	-	<50	210	<100	210	<50	<20	<20	-	-	-
QC02	SFM03 0.0-0.1	30/11/2020	3.7	<0.4	-	23	89	85	0.1	18	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02A	SFM03 0.0-0.1	30/11/2020	<4	<0.4	-	10	54	170	0.1	11	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	11	1	-	34	180	350	1.3	22	870	<20	41	350	75	466	-	-	-	-	54	590	250	894	54	<20	<20	-	-	-
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	11	0.6	-	53	270	250	0.7	39	950	<20	120	1100	1200	2420	<50	380	440	820	160	2000	720	2880	160	<20	<20	<50	750	<100
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	17	2.8	-	52	190	650	1.3	27	1200	<20	98	1200	210	1508	<50	470	510	980	170	1900	560	2630	170	<20	<20	51	870	140
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	6.1	<0.4	-	16	120	130	0.2	12	300	<100	130	1000	780	1910	<50	280	<100	280	<250	1600	<500	1600	<250	<100	<100	63	560	<100
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	12	1.7	-	59	160	520	0.7	24	840	<20	29	150	<50	179	-	-	-	-	<50	260	<100	260	<50	<20	<20	-	-	-
SFM07 1.0-1.1	SFM07 1.0-1.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 1.5-1.6	SFM07 1.5-1.6	30/11/2020	27	13	<1	580	750	1600	6.3	170	2900	<100	680	7700	2000	10,380	260	2800	2100	5160	1000	11,000	1400	13,400	1000	<100	<100	480	4300	510
SFM07 1-1.6	SFM07 1-1.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM09 0.0-0.1	SFM09 0.0-0.1	30/11/2020	6.8	0.9	-	23	140	290	0.5	13	760	<20	40	170	<50	210	-	-	-	-	<50	290	<100	290	<50	<20	<20	-	-	-
SFM10 0.0-0.1	SFM10 0.0-0.1	30/11/2020	26	4.1	-	87	310	960	1.8	44	1700	<20	36	250	<50	286	-	-	-	-	<50	410	<100	410	<50	<20	<20	-	-	-
SFM10 0.5-0.6	SFM10 0.5-0.6	30/11/2020	34	7.6	-	59	520	1200	5.7	46	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM11 0.0-0.1	SFM11 0.0-0.1	30/11/2020	20	2.3	-	44	290	510	1.2	27	1300	<100	130	940	89	1159	<50	610	540	1150	130	1600	240	1970	130	<100	<100	61	1000	110
SFM11 1.0-1.1	SFM11 1.0-1.1	30/11/2020	26	7.3	<1	230	530	940	5.8	67	2000	<20	70	760	150	980	-	-	-	-	95	1000	120	1215	95	<20	<20	-	-	-
SFM12 0.0-0.1	SFM12 0.0-0.1	30/11/2020	31	5.3	-	76	350	1100	2.8	43	2000	<20	36	350	88	474	-	-	-	-	<50	540	<100	540	<50	<20	<20	-	-	-
SFM12 0.5-0.6	SFM12 0.5-0.6	30/11/2020	26	11	<1	390	710	1200	6.4	90	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM13 0.0-0.1	SFM13 0.0-0.1	30/11/2020	30	6	-	70	310	910	2.4	33	2100	<100	<100	760	<250	760	-	-	-	-	<250	1300	<500	1300	<250	<100	<100	-	-	-
QC01	SFM13 0.0-0.1	30/11/2020	25	3.3	-	59	320	670	1.8	27	1500	<20	24	200	<50	224	-	-	-	-	<50	340	<100	340	<50	<20	<20	-	-	-
QC01A	SFM13 0.0-0.1	30/11/2020	11	1	-	23	180	250	1.1	10	520	<25	<50	350	480	-	-	-	-	-	<50	700	260	960	<50	<25	<25	-	-	-
SFM13 1.0-1.1	SFM13 1.0-1.1	30/11/2020	25	1.6	-	22	260	3000	2.9	16	930	<20	<100	1500	<250	1500	<50	760	370	1130	<250	2100	<500	2100	<250	<20	<20	<50	1100	<100
SFM13 2.0-2.1	SFM13 2.0-2.1	30/11/2020	14	1	-	21	250	450	1.8	18	770	<20	47	990	160	1197	-	-	-	-	79	1300	130	1509	79	<20	<20	-	-	-

Table E: Contaminant Totals Waste
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

			BTEXN							Polycyclic Aromatic Hydrocarbons																					
			Benzene	Ethylbenzene	Toluene	Xylene (o)	Xylene (m & p)	Xylene (Total)	Naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz[a]anthracene	Benzo[a]pyrene	Benzo[a]pyrene TEQ (lower bound)*	Benzo[a]pyrene TEQ (medium bound)	Benzo[a]pyrene TEQ (upper bound)*	Benzo[b,j]fluoranthene	Benzo[g,h,i]perylene	Benzo[k]fluoranthene	Chrysene	Dibenz[a,h]anthracene	Carcinogenic PAHs as B[a]P TEQ	Fluoranthene	Fluorene	Indeno[1,2,3-cd]pyrene	Phenanthrene	PAHs (Total)	Pyrene	Total Positive PAHs
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.05	0.5	0.5	0.5	0.5	0.1	0.5	0.1	0.1		0.1	0.1	0.1	0.1	0.5	0.1	
NSW 2014 General Solid Waste CT1 (No Leaching)			10	600	288			1000						0.8														200		
NSW 2014 General Solid Waste SCC1 (with leached)			18	1080	518			1800						10														200		
NSW 2014 Restricted Solid Waste CT2 (No Leaching)			40	2400	1152			4000						3.2														800		
NSW 2014 Restricted Solid Waste SCC2 (with leached)			72	4320	2073			7200						23														800		
Field_ID	**LocCode**	**Sampled_Date-Time**																													
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	1.2	1.8	2.3	2.5	2.8	1.2	1.1	1.4	1.1	<0.5	2.532	2.6	<0.5	0.8	1.2	14.8	2.4	-
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	1	3.6	6	8.4	8.4	8.4	4.6	4.3	4.3	2.9	0.8	8.392	8.5	<0.5	2.7	3.7	53.4	11	-
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.6	1	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.955	0.6	<0.5	<0.5	<0.5	1.9	0.7	-
QC02	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
QC02A	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	<0.1	<0.1	0.2	0.2	0.9	0.87	1.3	1.3	1.3	-	0.5	-	0.8	0.1	1.123	1.1	<0.1	0.5	0.5	-	1.6	8.6
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	0.6	0.6	0.7	1	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.99	1	<0.5	<0.5	0.6	3.7	0.9	-
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.7	1	1.3	<0.5	<0.5	0.6	<0.5	<0.5	0.99	1	<0.5	<0.5	<0.5	3.2	1	-
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.7	1	1.3	<0.5	<0.5	0.7	<0.5	<0.5	1	0.9	<0.5	<0.5	0.6	4.2	1.4	-
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.7	1	1.3	0.5	<0.5	0.6	<0.5	<0.5	1.015	1.1	<0.5	<0.5	0.8	4.7	1.1	-
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	<0.5	<0.5	<0.5	<0.5	0.6	0.6	-
SFM07 1.0-1.1	SFM07 1.0-1.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 1.5-1.6	SFM07 1.5-1.6	30/11/2020	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<2.5 - 4.5	10	5.3	30	76	74	110	110	110	51	38	73	70	13	111.8	230	21	37	150	1073	190	-
SFM07 1-1.6	SFM07 1-1.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM09 0.0-0.1	SFM09 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<1.21	0.6	<0.5	<0.5	<0.5	1.2	0.6	-
SFM10 0.0-0.1	SFM10 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	0.6	0.8	1	1.3	1.6	0.6	<0.5	0.9	<0.5	<0.5	1.29	1.2	<0.5	<0.5	<0.5	5.6	1.5	-
SFM10 0.5-0.6	SFM10 0.5-0.6	30/11/2020	-	-	-	-	-	-	0.5	1.1	0.9	2.7	10	11	17	17	17	7.7	6.2	11	9	2	16.6	30	1.7	5.8	14	139.6	26	-
SFM11 0.0-0.1	SFM11 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<0.5	<0.5	<0.5	0.8	2.8	4.4	6.8	6.8	6.8	3.1	2.6	4.9	2.3	1	6.759	5.4	<0.5	2.3	2	37.8	6.2	-
SFM11 1.0-1.1	SFM11 1.0-1.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	0.8	0.8	3.1	9.2	9.6	14	14	14	7	5.2	9.5	8.8	1.7	14.48	28	1.3	4.7	12	125.7	24	-
SFM12 0.0-0.1	SFM12 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	1.2	1.6	2.1	2.3	2.6	1.1	0.8	1.6	0.8	<0.5	2.336	2.6	<0.5	0.8	0.8	14.3	3	-
SFM12 0.5-0.6	SFM12 0.5-0.6	30/11/2020	-	-	-	-	-	-	<0.5	1.3	1.7	4.7	14	17	26	26	26	12	8.4	17	16	3.3	25.66	45	2	8.2	16	204.6	38	-
SFM13 0.0-0.1	SFM13 0.0-0.1	30/11/2020	<0.5	<0.5	<0.5	<0.5	<1	<1.5	<0.5	<0.5	<0.5	<0.5	1.4	2.1	2.8	3	3.3	1.5	1.2	2.4	1	<0.5	3.022	2.2	<0.5	1.2	0.9	17.6	3.7	-
QC01	SFM13 0.0-0.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	0.9	1.1	1.4	1.7	2	0.9	0.5	1.1	0.7	<0.5	1.677	2.5	<0.5	<0.5	1.4	11.5	2.4	-
QC01A	SFM13 0.0-0.1	30/11/2020	<0.2	<1	<0.5	<1	<2	<3	<0.1	<0.1	0.5	0.7	2.2	3.1	4.4	4.4	4.4	-	1.9	-	2	0.4	3.919	3.8	0.2	1.6	1.8	-	4.7	28
SFM13 1.0-1.1	SFM13 1.0-1.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5 - 0.7	<0.5	2.3	5.3	36	34	52	52	52	19	16	34	33	6.7	51.69	79	0.8	16	3.6	362.4	76	-
SFM13 2.0-2.1	SFM13 2.0-2.1	30/11/2020	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	1.8	1.6	9.3	22	19	29	29	29	12	8.8	17	19	3.5	28.75	51	4.2	8.7	30	256.9	49	-

Table E: Contaminant Totals Waste
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

Field_ID	LocCode	Sampled_Date-Time	Organochlorine Pesticides																							
			4,4-DDE	Aldrin	Aldrin + Dieldrin (Sum of Total)	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane	DDD	DDT	Dieldrin	DDT+DDE+DDD (Sum of Total)	delta-BHC	Endosulfan alpha	Endosulfan beta	Endosulfan sulphate	Endrin	gamma-Chlordane	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Lindane	Methoxychlor	Toxaphene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.05	0.05	0.05	0.05		0.05	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		0.05	0.05	0.05	0.05	0.05	0.1	0.1
NSW 2014 General Solid Waste CT1 (No Leaching)																										
NSW 2014 General Solid Waste SCC1 (with leached)																										
NSW 2014 Restricted Solid Waste CT2 (No Leaching)																										
NSW 2014 Restricted Solid Waste SCC2 (with leached)																										
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
QC02	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02A	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM07 1.0-1.1	SFM07 1.0-1.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 1.5-1.6	SFM07 1.5-1.6	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM07 1-1.6	SFM07 1-1.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM09 0.0-0.1	SFM09 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM10 0.0-0.1	SFM10 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM10 0.5-0.6	SFM10 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM11 0.0-0.1	SFM11 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM11 1.0-1.1	SFM11 1.0-1.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM12 0.0-0.1	SFM12 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM12 0.5-0.6	SFM12 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM13 0.0-0.1	SFM13 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
QC01	SFM13 0.0-0.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
QC01A	SFM13 0.0-0.1	30/11/2020	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	<0.1	<0.1	<0.1	-
SFM13 1.0-1.1	SFM13 1.0-1.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1
SFM13 2.0-2.1	SFM13 2.0-2.1	30/11/2020	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.1

Field_ID	Chlorinated Alkanes																		
	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane	1,1-dichloroethene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)	200	600	26	24				10					10				172		14
NSW 2014 General Solid Waste SCC1 (with leached)	360	1080	46.8	43.2				18					18				310		25
NSW 2014 Restricted Solid Waste CT2 (No Leaching)	800	2400	104	96				40					40				688		56
NSW 2014 Restricted Solid Waste SCC2 (with leached)	1440	4320	187.2	172.8				72					72				1240		100
SFM01 0.0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM01 1.0-1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SFM02 0.0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM03 0.0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM04 0.0-0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SFM05 0.0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM05 1.0-1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SFM06 0.0-0.1	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	-	<2.5	<2.5	<2.5	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
SFM06 0.5-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 1.0-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 1.5-1.6	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	-	<2.5	<2.5	<2.5	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
SFM07 1-1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM09 0.0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM10 0.0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM10 0.5-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM11 0.0-0.1	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	-	<2.5	<2.5	<2.5	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
SFM11 1.0-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM12 0.0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM12 0.5-0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM13 0.0-0.1	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	-	<2.5	<2.5	<2.5	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
QC01	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QC01A	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1
SFM13 1.0-1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM13 2.0-2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table E: Contaminant Totals Waste
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

	Chlorinated Alkenes													Solvents	Polychlorinated Biphenyls								Monocyclic Aromatic Hydrocarbons										Miscellaneous Hydrocarbons							Chlorinated B			
	1,1-dichloropropene	1,3-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	2-Propanone (Acetone)	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	PCBs (Total)	1,2,4-trimethyl benzene	1,3,5-trimethyl benzene	4-isopropyl toluene	Bromobenzene	Isopropylbenzene	n-butyl benzene	n-propyl benzene	sec-butyl benzene	Styrene	Tert-butyl benzene	1,2-dibromoethane	2-Butanone (MEK)	4-Methyl-2-pentanone (MIBK)	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5		0.5	0.5				0.5		0.5	0.5	0.5	0.5		0.5	0.5			0.5	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)								14			10	4									<50									60			4000								86	
NSW 2014 General Solid Waste SCC1 (with leached)								25.2			18	7.2									<50-|<50-									108			7200								155	
NSW 2014 Restricted Solid Waste CT2 (No Leaching)								56			40	16									<50									240			16000								344	
NSW 2014 Restricted Solid Waste SCC2 (with leached)								100.8			72	28.8									<50									432			28800								620	
Field_ID	**LocCode**	**Sampled_Date-Time**																																									
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
QC02A	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	-	<5	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 1.0-1.1	SFM07 1.0-1.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM07 1.5-1.6	SFM07 1.5-1.6	30/11/2020	-	<5	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	-	<2.5	<2.5	-	-	-	<2.5	-	<2.5	<2.5	<2.5	<2.5	-	<2.5	<2.5	-	-	<2.5	<2.5
SFM07 1-1.6	SFM07 1-1.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM09 0.0-0.1	SFM09 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM10 0.0-0.1	SFM10 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM10 0.5-0.6	SFM10 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM11 0.0-0.1	SFM11 0.0-0.1	30/11/2020	-	<5	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	-	<2.5	<2.5	-	-	-	<2.5	-	<2.5	<2.5	<2.5	<2.5	-	<2.5	<2.5	-	-	<2.5	<2.5
SFM11 1.0-1.1	SFM11 1.0-1.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM12 0.0-0.1	SFM12 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM12 0.5-0.6	SFM12 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM13 0.0-0.1	SFM13 0.0-0.1	30/11/2020	-	<5	-	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2.5	<2.5	-	<2.5	<2.5	-	-	-	<2.5	-	<2.5	<2.5	<2.5	<2.5	-	<2.5	<2.5	-	-	<2.5	<2.5
QC01	SFM13 0.0-0.1	30/11/2020	-	<1	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	-	-	<0.5	<0.5
QC01A	SFM13 0.0-0.1	30/11/2020	<1	<2	<1	-	<1	<1	<1	<1	<1	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	<1	-	<1	<1	<1	<1	<1	<1
SFM13 1.0-1.1	SFM13 1.0-1.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SFM13 2.0-2.1	SFM13 2.0-2.1	30/11/2020	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table E: Contaminant Totals Waste
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

			Benzenes			Trihalomethanes				Organometallics
			1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Bromodichloromethane	Chloroform	Dibromochloromethane	Tribromomethane	Trubutyltin
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/kg
EQL			0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (No Leaching)			150	2000			120			
NSW 2014 General Solid Waste SCC1 (with leached)			270	3600			216			
NSW 2014 Restricted Solid Waste CT2 (No Leaching)			600	8000			480			
NSW 2014 Restricted Solid Waste SCC2 (with leached)			1080	14400			864			
Field_ID	**LocCode**	**Sampled_Date-Time**								
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5
SFM02 0.0-0.1	SFM02 0.0-0.1	30/11/2020	-	-	<0.05	-	-	-	-	-
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	-	-	<0.05	-	-	-	-	-
QC02	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-
QC02A	SFM03 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	11
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	-	-	-	-	-	-	-	-
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	<2.5	<2.5	<0.05	<2.5	<2.5	<2.5	<2.5	11
SFM06 0.5-0.6	SFM06 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	-	-	<0.05	-	-	-	-	-
SFM07 1.0-1.1	SFM07 1.0-1.1	30/11/2020	-	-	-	-	-	-	-	-
SFM07 1.5-1.6	SFM07 1.5-1.6	30/11/2020	<2.5	<2.5	<0.05	<2.5	<2.5	<2.5	<2.5	<0.5
SFM07 1-1.6	SFM07 1-1.6	30/11/2020	-	-	-	-	-	-	-	-
SFM09 0.0-0.1	SFM09 0.0-0.1	30/11/2020	-	-	<0.05	-	-	-	-	-
SFM10 0.0-0.1	SFM10 0.0-0.1	30/11/2020	-	-	<0.05	-	-	-	-	-
SFM10 0.5-0.6	SFM10 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	-
SFM11 0.0-0.1	SFM11 0.0-0.1	30/11/2020	<2.5	<2.5	<0.05	<2.5	<2.5	<2.5	<2.5	93
SFM11 1.0-1.1	SFM11 1.0-1.1	30/11/2020	-	-	<0.05	-	-	-	-	-
SFM12 0.0-0.1	SFM12 0.0-0.1	30/11/2020	-	-	<0.05	-	-	-	-	
SFM12 0.5-0.6	SFM12 0.5-0.6	30/11/2020	-	-	-	-	-	-	-	
SFM13 0.0-0.1	SFM13 0.0-0.1	30/11/2020	<2.5	<2.5	<0.05	<2.5	<2.5	<2.5	<2.5	42
QC01	SFM13 0.0-0.1	30/11/2020	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	6.1
QC01A	SFM13 0.0-0.1	30/11/2020	<1	<1	<0.1	<1	<1	<1	<1	38
SFM13 1.0-1.1	SFM13 1.0-1.1	30/11/2020	-	-	<0.05	-	-	-	-	-
SFM13 2.0-2.1	SFM13 2.0-2.1	30/11/2020	-	-	<0.05	-	-	-	-	-

Table F: TCLP Results
Project Number: 60081
Project Name: New Sydney Fish Market Sediment Assessment

			Metals & Metalloids									BTEXN	Polycyclic Aromatic Hydrocarbons																Ionic Balance		
			Arsenic (Total)	Cadmium	Chromium (Cr VI)	Chromium (Total)	Copper	Lead	Mercury (Inorganic)	Nickel	Zinc	Naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b,j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Phenanthrene	PAHs (Total)	Pyrene	pH (TCLP - HCl addition)	pH (TCLP - initial)	pH (TCLP - off)
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ph Units	ph Units	ph Units
EQL			0.01	0.005	0.005	0.05	0.05	0.01	0.001	0.01	0.05	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.1	0.1	0.1
NSW 2014 General Solid Waste TCLP1 (leached)			5	1	5	5		5	0.2	2							0.04														
NSW 2014 Restricted Solid Waste TCLP2 (leached)			20	4	20	20		20	0.8	8							0.16														
Field_ID	**LocCode**	**Sampled_Date-Time**																													
SFM01 0.0-0.1	SFM01 0.0-0.1	30/11/2020	0.03	<0.005	-	<0.05	<0.05	<0.01	<0.001	0.02	0.29	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.7	7.5	6.5
SFM01 1.0-1.1	SFM01 1.0-1.1	30/11/2020	0.01	0.026	-	<0.05	0.05	2.7	<0.001	0.1	23	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.7	8.5	5.5
SFM03 0.0-0.1	SFM03 0.0-0.1	30/11/2020	<0.01	<0.005	-	<0.05	<0.05	0.76	<0.001	0.04	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	8.1	5.3
SFM04 0.0-0.1	SFM04 0.0-0.1	30/11/2020	0.02	0.005	-	<0.05	<0.05	1.3	<0.001	0.07	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	8.4	5.3
SFM05 0.0-0.1	SFM05 0.0-0.1	30/11/2020	0.02	0.007	-	<0.05	0.08	0.4	<0.001	0.04	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	8.7	5.4
SFM05 1.0-1.1	SFM05 1.0-1.1	30/11/2020	0.01	<0.005	-	<0.05	<0.05	0.42	<0.001	0.09	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	8.7	6.2
SFM06 0.0-0.1	SFM06 0.0-0.1	30/11/2020	<0.01	0.006	-	<0.05	0.07	0.78	<0.001	0.03	2.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	8.2	5.2
SFM07 0.0-0.1	SFM07 0.0-0.1	30/11/2020	<0.01	<0.005	-	<0.05	<0.05	<0.01	<0.001	0.03	<0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	8.1	6.5
SFM07 1.5-1.6	SFM07 1.5-1.6	30/11/2020	0.01	0.019	<0.005	<0.05	<0.05	1.9	<0.001	0.32	28	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002	<0.001	0.005	0.011	0.001	1.7	8.5	5.2
SFM09 0.0-0.1	SFM09 0.0-0.1	30/11/2020	0.02	<0.005	-	<0.05	<0.05	0.05	<0.001	0.02	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	8	5.1
SFM10 0.0-0.1	SFM10 0.0-0.1	30/11/2020	0.01	0.035	-	<0.05	0.08	3.3	<0.001	0.17	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	8.3	5.4
SFM10 0.5-0.6	SFM10 0.5-0.6	30/11/2020	<0.01	0.035	-	<0.05	0.08	2.3	<0.001	0.18	24	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.002	0.004	0.001	1.6	8.3	5.2
SFM11 0.0-0.1	SFM11 0.0-0.1	30/11/2020	0.01	0.029	-	<0.05	0.06	2.5	<0.001	0.1	24	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.7	8.6	5.3
SFM11 1.0-1.1	SFM11 1.0-1.1	30/11/2020	<0.01	0.03	<0.005	<0.05	<0.05	1.9	<0.001	0.15	16	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.003	0.001	<0.001	0.001	<0.001	0.002	<0.001	0.001	0.002	0.014	0.002	1.6	8	5.2
SFM12 0.0-0.1	SFM12 0.0-0.1	30/11/2020	0.02	0.064	-	<0.05	0.1	3.6	<0.001	0.24	29	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.6	8.3	5.3
SFM12 0.5-0.6	SFM12 0.5-0.6	30/11/2020	<0.01	0.038	<0.005	<0.05	<0.05	1.8	<0.001	0.38	21	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.002	0.005	0.001	1.6	8.6	6.4
SFM13 0.0-0.1	SFM13 0.0-0.1	30/11/2020	0.03	<0.005	-	<0.05	<0.05	0.02	<0.001	0.06	2.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1.7	8.6	6.4
SFM13 1.0-1.1	SFM13 1.0-1.1	30/11/2020	0.06	<0.005	-	<0.05	<0.05	<0.01	<0.001	0.03	0.14	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.005	0.002	1.8	8.8	6.3
SFM13 2.0-2.1	SFM13 2.0-2.1	30/11/2020	<0.01	<0.005	-	<0.05	<0.05	0.51	<0.001	0.1	6.3	<0.001	0.002	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.002	<0.001	0.006	0.017	0.002	1.6	7.7	5.2

Appendix B – Borelogs

SOIL BOREHOLE SFM01

PROJECT NUMBER 60081	**DRILLING COMPANY** Geochem Assessments	**EASTING** N/A
PROJECT NAME New Fish Market Advice	**DRILLING DATE** 30-Nov-20	**NORTHING** N/A
CLIENT INSW	**DRILL RIG**	**COORD SYS** GDA94_MGA_zone_56
ADDRESS 1 Bridge Rd, Glebe, NSW	**DRILLING METHOD** Manual Piston Core	**COORD SOURCE** Map Approximation
	DIAMETER 50 mm	**LOGGED BY** CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1		Fill	FILL: Fill - Gravelly Clayey SILT - Dark grey, heterogeneous, saturated, firm, low plasticity with inclusions of coal, ash, plastic, shells and metal fragments	SFM01_0-1 SFM01_0.5-0.6 SFM01_1-1.1	No Asbestos or Staining.Sulfidic Odours Observed
		1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:1.100 m		

SOIL BOREHOLE SFM02

PROJECT NUMBER 60081	**DRILLING COMPANY** Geochem Assessments	**EASTING** N/A
PROJECT NAME New Fish Market Advice	**DRILLING DATE** 30-Nov-20	**NORTHING** N/A
CLIENT INSW	**DRILL RIG**	**COORD SYS** GDA94_MGA_zone_56
ADDRESS 1 Bridge Rd, Glebe, NSW	**DRILLING METHOD** Manual Piston Core	**COORD SOURCE** Map Approximation
	DIAMETER 50 mm	**LOGGED BY** CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5		Fill	FILL: Fill - Gravelly Clayey SILT - Dark grey, heterogeneous, saturated, soft, low plasticity, with inclusions of coal and ash FILL: As above, with increasing sand content.	SFM02_0-0.5 SFM02_0.4-0.5	No Asbestos or Staining.Sulfidic Odours Observed
		0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:0.500 m		

SOIL BOREHOLE SFM03

PROJECT NUMBER 60081
PROJECT NAME New Fish Market Advice
CLIENT INSW
ADDRESS 1 Bridge Rd, Glebe, NSW

DRILLING COMPANY Geochem Assessments
DRILLING DATE 30-Nov-20
DRILL RIG
DRILLING METHOD Manual Piston Core
DIAMETER 50 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5 0.6		Fill	FILL: Fill - Gravelly Clayey SILT - Dark grey, heterogeneous, saturated, soft, low plasticity with inclusions of coal, ash, metals, plastics and plant matter	SFM03_0-0.6 SFM03_0.5-0.6	QAQC02/QAQC02A taken at 0-0.1 mbgs No Asbestos or Staining.Sulfidic Odours Observed AS-QAQC01/AS-QAQC01A taken at 0-0.6 mbgs
		0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:0.600 m		

SOIL BOREHOLE SFM04

PROJECT NUMBER 60081
PROJECT NAME New Fish Market Advice
CLIENT INSW
ADDRESS 1 Bridge Rd, Glebe, NSW

DRILLING COMPANY Geochem Assessments
DRILLING DATE 30-Nov-20
DRILL RIG
DRILLING METHOD Manual Piston Core
DIAMETER 50 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5		Fill	FILL: Fill - Gravelly Clayey SILT - Dark grey, heterogeneous, saturated, soft, low plasticity with inclusions of coal, ash, plastics and plant matter	SFM04_0-0.4 SFM04_0.4-0.5	No Asbestos or Staining.Sulfidic Odours Observed
		0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:0.500 m		

SOIL BOREHOLE SFM05

PROJECT NUMBER 60081
PROJECT NAME New Fish Market Advice
CLIENT INSW
ADDRESS 1 Bridge Rd, Glebe, NSW

DRILLING COMPANY Geochem Assessments
DRILLING DATE 30-Nov-20
DRILL RIG
DRILLING METHOD Manual Piston Core
DIAMETER 50 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1		Fill	FILL: Fill - Gravelly Sandy SILT - Black, heterogeneous, saturated, soft, low plasticity, with inclusions of coal and ash	SFM05_0-0.1	No Asbestos or Staining.Sulfidic Odours Observed
		0.2		Fill	FILL: Fill - Clayey SILT - Dark Grey, heterogeneous, saturated, firm, low plasticity		
		0.3					
		0.4					
		0.5				SFM05_0.5-0.6	
		0.6					No Asbestos or Staining.Sulfidic Odours Observed
		0.7					
		0.8					
		0.9					
		1				SFM05_1-1.1	
		1.1					
		1.2			Termination Depth at:1.200 m		
		1.3					
		1.4					
		1.5					
		1.6					
		1.7					
		1.8					
		1.9					
		2					
		2.1					
		2.2					

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SOIL BOREHOLE SFM06

PROJECT NUMBER 60081
PROJECT NAME New Fish Market Advice
CLIENT INSW
ADDRESS 1 Bridge Rd, Glebe, NSW

DRILLING COMPANY Geochem Assessments
DRILLING DATE 30-Nov-20
DRILL RIG
DRILLING METHOD Manual Piston Core
DIAMETER 50 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8		Fill	FILL: Fill - Silty GRAVEL - Black, heterogeneous, loose, soft with inclusions of coal, ash, metals, plastics and plant matter	SFM06_0-1 SFM06_0.5-0.6	No Asbestos or Staining.Sulfidic Odours Observed
		0.9 1 1.1 1.2		Fill	FILL: Fill - Gravelly Clayey SILT - Dark grey, heterogeneous, saturated, firm, low plasticity, with inclusions of coal and ash	SFM06_1-1.1	No Asbestos or Staining.Sulfidic Odours Observed
		1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:1.200 m		

SOIL BOREHOLE SFM07

PROJECT NUMBER 60081	**DRILLING COMPANY** Geochem Assessments	**EASTING** N/A
PROJECT NAME New Fish Market Advice	**DRILLING DATE** 30-Nov-20	**NORTHING** N/A
CLIENT INSW	**DRILL RIG**	**COORD SYS** GDA94_MGA_zone_56
ADDRESS 1 Bridge Rd, Glebe, NSW	**DRILLING METHOD** Manual Piston Core	**COORD SOURCE** Map Approximation
	DIAMETER 50 mm	**LOGGED BY** CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6		Fill	FILL: Fill - Gravelly Clayey SILT - Dark grey, heterogeneous, saturated, firm, low plasticity with inclusions of coal, ash, plastic, wood and fine gravels	SFM07_0-1 SFM07_0.5-0.6 SFM07_1-1.6	No Asbestos or Staining.Sulfidic Odours Observed
		1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:1.600 m		

SOIL BOREHOLE SFM08

PROJECT NUMBER 60081
PROJECT NAME New Fish Market Advice
CLIENT INSW
ADDRESS 1 Bridge Rd, Glebe, NSW

DRILLING COMPANY Geochem Assessments
DRILLING DATE 30-Nov-20
DRILL RIG
DRILLING METHOD Manual Piston Core
DIAMETER 50 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1		Fill	FILL: Fill - Gravelly Clayey SILT - Brown, heterogeneous, saturated, soft, low plasticity with inclusions of fine gravels, coal and ash Termination Depth at:0.100 m	SFM08_0-0.1	No Asbestos or Staining.Sulfidic Odours ~~Observed~~

0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
2.1
2.2

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SOIL BOREHOLE SFM09

PROJECT NUMBER 60081	**DRILLING COMPANY** Geochem Assessments	**EASTING** N/A
PROJECT NAME New Fish Market Advice	**DRILLING DATE** 30-Nov-20	**NORTHING** N/A
CLIENT INSW	**DRILL RIG**	**COORD SYS** GDA94_MGA_zone_56
ADDRESS 1 Bridge Rd, Glebe, NSW	**DRILLING METHOD** Manual Piston Core	**COORD SOURCE** Map Approximation
	DIAMETER 50 mm	**LOGGED BY** CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5 0.6		Fill	FILL: Fill - Gravelly SILT - Dark grey, heterogeneous, saturated, soft, low plasticity with high amounts of plant matter, gravels, coal, ash and plastic	SFM09_0-0.6 SFM09_0.5-0.6	No Asbestos or Staining.Sulfidic Odours Observed
		0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:0.600 m		

SOIL BOREHOLE SFM10

PROJECT NUMBER 60081
PROJECT NAME New Fish Market Advice
CLIENT INSW
ADDRESS 1 Bridge Rd, Glebe, NSW

DRILLING COMPANY Geochem Assessments
DRILLING DATE 30-Nov-20
DRILL RIG
DRILLING METHOD Manual Piston Core
DIAMETER 50 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5 0.6 0.7		Fill	FILL: Fill - Gravelly Clayey SILT - Dark grey - brown, heterogeneous, saturated, soft, low plasticity with inclusions of gravels, coal, ash, plastic and wood	SFM10_0-0.6 SFM10_0.5-0.6	No Asbestos or Staining.Sulfidic and Hydrocarbon Odours Observed
		0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:0.700 m		

SOIL BOREHOLE SFM11

PROJECT NUMBER 60081
PROJECT NAME New Fish Market Advice
CLIENT INSW
ADDRESS 1 Bridge Rd, Glebe, NSW

DRILLING COMPANY Geochem Assessments
DRILLING DATE 30-Nov-20
DRILL RIG
DRILLING METHOD Manual Piston Core
DIAMETER 50 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2		Fill	FILL: Fill - Gravelly Clayey SILT - Dark grey, heterogeneous, saturated, soft, low plasticity with inclusions of sea shells, coal, ash, metals and plastic	SFM11_0-1 SFM11_0.5-0.6 SFM11_1-1.1	No Asbestos or Staining.Sulfidic Odours Observed
		1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:1.200 m		

SOIL BOREHOLE SFM12

PROJECT NUMBER 60081
PROJECT NAME New Fish Market Advice
CLIENT INSW
ADDRESS 1 Bridge Rd, Glebe, NSW

DRILLING COMPANY Geochem Assessments
DRILLING DATE 30-Nov-20
DRILL RIG
DRILLING METHOD Manual Piston Core
DIAMETER 50 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1 0.2 0.3 0.4 0.5 0.6 0.7		Fill	FILL: Fill - Clayey SILT - Dark grey - black, heterogeneous, saturated, firm, low plasticity with inclusions of gravels, wood and plastic	SFM12_0-0.6 SFM12_0.5-0.6	No Asbestos or Staining.Sulfidic Odours Observed
		0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2 2.1 2.2			Termination Depth at:0.700 m		

SOIL BOREHOLE SFM13

PROJECT NUMBER 60081
PROJECT NAME New Fish Market Advice
CLIENT INSW
ADDRESS 1 Bridge Rd, Glebe, NSW

DRILLING COMPANY Geochem Assessments
DRILLING DATE 30-Nov-20
DRILL RIG
DRILLING METHOD Manual Piston Core
DIAMETER 50 mm

EASTING N/A
NORTHING N/A
COORD SYS GDA94_MGA_zone_56
COORD SOURCE Map Approximation
LOGGED BY CB

COMMENTS

Drilling Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Samples	Additional Observations
Manual Piston Core		0.1		Fill	FILL: Fill - Gravelly Clayey SILT - Dark grey, heterogeneous, saturated, soft, low plasticity with inclusions of coal, ash and plastic	SFM13_0-0.1	QAQC01/QAQC01A taken at 0-0.1 mbgs
		0.2					
		0.3					No Asbestos or Staining.Sulfidic Odours Observed
		0.4					
		0.5				SFM13_0.5-0.6	
		0.6					
		0.7		Fill	FILL: Fill - Clayey SILT - Dark grey, heterogeneous, saturated, firm, medium plasticity with inclusions of sea shells, plant matter and plastic		
		0.8					
		0.9					
		1				SFM13_1-1.1	
		1.1					No Asbestos or Staining.Sulfidic and Hydrocarbon Odours Observed
		1.2					
		1.3					
		1.4					
		1.5				SFM13_1.5-1.6	
		1.6					
		1.7					
		1.8					
		1.9					
		2				SFM13_2-2.1	
		2.1					
		2.2			Termination Depth at:2.200 m		

Appendix C – Laboratory Reports and Chain of Custody Documentation

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Chris Bielby**

Report **761093-S**
Project name BLACKWATTLE BAY
Project ID 60081
Received Date Dec 03, 2020

Client Sample ID			**SFM01 0.0-0.1**	**SFM01 1.0-1.1**	**SFM02 0.0-0.1**	**SFM03 0.0-0.1**
Sample Matrix			**Sediment**	**Sediment**	**Sediment**	**Sediment**
Eurofins Sample No.			**S20-De07241**	**S20-De07243**	**S20-De07245**	**S20-De07248**
Date Sampled			**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**
Test/Reference	LOR	Unit				
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	370	630	160	95
TRH C29-C36	50	mg/kg	200	240	82	< 50
TRH C10-C36 (Total)	50	mg/kg	570	870	242	95
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	%	68	55	71	76
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	630	960	300	210
TRH >C34-C40	100	mg/kg	120	160	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	750	1120	300	210
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	2.3	8.4	< 0.5	0.6
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	2.5	8.4	0.6	1.0
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	2.8	8.4	1.2	1.3
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	1.0	< 0.5	< 0.5
Benz(a)anthracene	0.5	mg/kg	1.2	3.6	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	1.8	6.0	< 0.5	0.6
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	1.2	4.6	< 0.5	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	1.1	4.3	< 0.5	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	1.4	4.3	< 0.5	< 0.5
Chrysene	0.5	mg/kg	1.1	2.9	< 0.5	< 0.5

Client Sample ID			SFM01 0.0-0.1	SFM01 1.0-1.1	SFM02 0.0-0.1	SFM03 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07241	S20-De07243	S20-De07245	S20-De07248
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	0.8	< 0.5	< 0.5
Fluoranthene	0.5	mg/kg	2.6	8.5	< 0.5	0.6
Fluorene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	0.8	2.7	< 0.5	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	1.2	3.7	< 0.5	< 0.5
Pyrene	0.5	mg/kg	2.4	11	< 0.5	0.7
Total PAH*	0.5	mg/kg	14.8	53.4	< 0.5	1.9
2-Fluorobiphenyl (surr.)	1	%	96	79	95	85
p-Terphenyl-d14 (surr.)	1	%	98	68	90	79
Total Organic Carbon	0.1	%	18	15	1.3	1.3
% Moisture	1	%	45	58	33	27
Tributyltin (TBT)			-	See attached	-	-
Heavy Metals						
Arsenic	2	mg/kg	15	29	3.7	4.2
Cadmium	0.4	mg/kg	1.4	9.3	< 0.4	< 0.4
Chromium	5	mg/kg	32	58	25	15
Copper	5	mg/kg	210	2100	140	43
Lead	5	mg/kg	350	1900	35	110
Mercury	0.1	mg/kg	0.8	6.5	< 0.1	< 0.1
Nickel	5	mg/kg	12	45	33	13
Zinc	5	mg/kg	850	5600	180	210
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
1.1.1-Trichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.2-Trichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dibromoethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichloroethane	0.5	mg/kg	-	< 0.5	-	-
1.2-Dichloropropane	0.5	mg/kg	-	< 0.5	-	-
1.2.3-Trichloropropane	0.5	mg/kg	-	< 0.5	-	-
1.2.4-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	-
1.3-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
1.3-Dichloropropane	0.5	mg/kg	-	< 0.5	-	-
1.3.5-Trimethylbenzene	0.5	mg/kg	-	< 0.5	-	-
1.4-Dichlorobenzene	0.5	mg/kg	-	< 0.5	-	-
2-Butanone (MEK)	0.5	mg/kg	-	< 0.5	-	-
2-Propanone (Acetone)	0.5	mg/kg	-	< 0.5	-	-
4-Chlorotoluene	0.5	mg/kg	-	< 0.5	-	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	< 0.5	-	-
Allyl chloride	0.5	mg/kg	-	< 0.5	-	-
Benzene	0.1	mg/kg	-	< 0.1	-	-
Bromobenzene	0.5	mg/kg	-	< 0.5	-	-
Bromochloromethane	0.5	mg/kg	-	< 0.5	-	-
Bromodichloromethane	0.5	mg/kg	-	< 0.5	-	-

Client Sample ID			SFM01 0.0-0.1	SFM01 1.0-1.1	SFM02 0.0-0.1	SFM03 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07241	S20-De07243	S20-De07245	S20-De07248
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Volatile Organics						
Bromoform	0.5	mg/kg	-	< 0.5	-	-
Bromomethane	0.5	mg/kg	-	< 0.5	-	-
Carbon disulfide	0.5	mg/kg	-	< 0.5	-	-
Carbon Tetrachloride	0.5	mg/kg	-	< 0.5	-	-
Chlorobenzene	0.5	mg/kg	-	< 0.5	-	-
Chloroethane	0.5	mg/kg	-	< 0.5	-	-
Chloroform	0.5	mg/kg	-	< 0.5	-	-
Chloromethane	0.5	mg/kg	-	< 0.5	-	-
cis-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
cis-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	-
Dibromochloromethane	0.5	mg/kg	-	< 0.5	-	-
Dibromomethane	0.5	mg/kg	-	< 0.5	-	-
Dichlorodifluoromethane	0.5	mg/kg	-	< 0.5	-	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	-
Iodomethane	0.5	mg/kg	-	< 0.5	-	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	< 0.5	-	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	-
Methylene Chloride	0.5	mg/kg	-	< 0.5	-	-
o-Xylene	0.1	mg/kg	-	< 0.1	-	-
Styrene	0.5	mg/kg	-	< 0.5	-	-
Tetrachloroethene	0.5	mg/kg	-	< 0.5	-	-
Toluene	0.1	mg/kg	-	< 0.1	-	-
trans-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	-	-
trans-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	-	-
Trichloroethene	0.5	mg/kg	-	< 0.5	-	-
Trichlorofluoromethane	0.5	mg/kg	-	< 0.5	-	-
Vinyl chloride	0.5	mg/kg	-	< 0.5	-	-
Xylenes - Total*	0.3	mg/kg	-	< 0.3	-	-
Total MAH*	0.5	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	< 0.5	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	< 0.5	-	-
4-Bromofluorobenzene (surr.)	1	%	-	55	-	-
Toluene-d8 (surr.)	1	%	-	67	-	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05

Client Sample ID			SFM01 0.0-0.1	SFM01 1.0-1.1	SFM02 0.0-0.1	SFM03 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07241	S20-De07243	S20-De07245	S20-De07248
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	-	< 0.2	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	-	72	77	94
Tetrachloro-m-xylene (surr.)	1	%	-	67	86	88
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	-	< 0.1	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	-	72	77	94
Tetrachloro-m-xylene (surr.)	1	%	-	67	86	88
SPOCAS Suite						
pH-KCL	0.1	pH Units	-	8.5	8.4	8.5
pH-OX	0.1	pH Units	-	2.9	6.0	3.2
Acid trail - Titratable Actual Acidity	2	mol H+/t	-	< 2	< 2	< 2
Acid trail - Titratable Peroxide Acidity	2	mol H+/t	-	440	< 2	230
Acid trail - Titratable Sulfidic Acidity	2	mol H+/t	-	440	< 2	230
sulfidic - TAA equiv. S% pyrite	0.003	% pyrite S	-	< 0.003	< 0.003	< 0.003
sulfidic - TPA equiv. S% pyrite	0.02	% pyrite S	-	0.70	< 0.02	0.36
sulfidic - TSA equiv. S% pyrite	0.02	% pyrite S	-	0.70	< 0.02	0.36
Sulfur - KCl Extractable	0.02	% S	-	0.13	0.15	0.13
Sulfur - Peroxide	0.02	% S	-	2.1	1.1	1.0
Sulfur - Peroxide Oxidisable Sulfur	0.02	% S	-	1.9	0.99	0.89
acidity - Peroxide Oxidisable Sulfur	10	mol H+/t	-	1200	620	550
HCl Extractable Sulfur Correction Factor	1	factor	-	2.0	2.0	2.0
HCl Extractable Sulfur	0.02	% S	-	n/a	n/a	n/a
Net Acid soluble sulfur	0.02	% S	-	n/a	n/a	n/a
Net Acid soluble sulfur - acidity units	10	mol H+/t	-	n/a	n/a	n/a
Net Acid soluble sulfur - equivalent S% pyrite[S02]	0.02	% S	-	n/a	n/a	n/a
Calcium - KCl Extractable	0.02	% Ca	-	0.21	0.27	0.20
Calcium - Peroxide	0.02	% Ca	-	1.5	1.1	0.66
Acid Reacted Calcium	0.02	% Ca	-	1.3	0.80	0.45
acidity - Acid Reacted Calcium	10	mol H+/t	-	640	400	230
sulfidic - Acid Reacted Ca equiv. S% pyrite	0.02	% S	-	1.0	0.64	0.36
Magnesium - KCl Extractable	0.02	% Mg	-	0.09	0.12	0.07
Magnesium - Peroxide	0.02	% Mg	-	0.31	0.30	0.17
Acid Reacted Magnesium	0.02	% Mg	-	0.21	0.18	0.10

Client Sample ID			SFM01 0.0-0.1	SFM01 1.0-1.1	SFM02 0.0-0.1	SFM03 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07241	S20-De07243	S20-De07245	S20-De07248
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
SPOCAS Suite						
acidity - Acid Reacted Magnesium	10	mol H+/t	-	170	150	86
sulfidic - Acid Reacted Mg equiv. S% pyrite	0.02	% S	-	0.28	0.24	0.14
Acid Neutralising Capacity (ANCE)	0.02	% CaCO3	-	n/a	n/a	n/a
Acid Neutralising Capacity - Acidity units (a-ANCE)	10	mol H+/t	-	n/a	n/a	n/a
Acid Neutralising Capacity - equivalent S% pyrite(s-ANCE)	0.02	% S	-	n/a	n/a	n/a
ANC Fineness Factor		factor	-	1.5	1.5	1.5
SPOCAS - Net Acidity (Sulfur Units)	0.02	% S	-	1.1	0.33	0.54
SPOCAS - Net Acidity (Acidity Units)	10	mol H+/t	-	700	210	330
SPOCAS - Liming rate	1	kg CaCO3/t	-	52	16	25
Extraneous Material						
<2mm Fraction	0.005	g	-	78	120	130
>2mm Fraction	0.005	g	-	1.6	< 0.005	48
Analysed Material	0.1	%	-	98	100	73
Extraneous Material	0.1	%	-	2.0	< 0.1	27

Client Sample ID			SFM04 0.0-0.1	SFM05 0.0-0.1	SFM05 1.0-1.1	[G01] SFM06 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07251	S20-De07254	S20-De07256	S20-De07258
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 100
TRH C10-C14	20	mg/kg	41	120	98	130
TRH C15-C28	50	mg/kg	350	1100	1200	1000
TRH C29-C36	50	mg/kg	75	1200	210	780
TRH C10-C36 (Total)	50	mg/kg	466	2420	1508	1910
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.5
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.5
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.5
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 1
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.5
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 1.5
4-Bromofluorobenzene (surr.)	1	%	55	71	55	70
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 2.5
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 100
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	< 20	< 100
TRH >C10-C16	50	mg/kg	54	160	170	< 250
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	54	160	170	< 250
TRH >C16-C34	100	mg/kg	590	2000	1900	1600
TRH >C34-C40	100	mg/kg	250	720	560	< 500
TRH >C10-C40 (total)*	100	mg/kg	894	2880	2630	1600

Client Sample ID			SFM04 0.0-0.1	SFM05 0.0-0.1	SFM05 1.0-1.1	[G01]SFM06 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07251	S20-De07254	S20-De07256	S20-De07258
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.7	0.7	0.7	0.7
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	1.0	1.0	1.0	1.0
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.3	1.3	1.3	1.3
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	0.6	< 0.5	< 0.5	< 0.5
Benzo(a)pyrene	0.5	mg/kg	0.6	0.6	0.6	0.6
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	0.6	0.7	0.6
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	1.0	1.0	0.9	1.1
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	0.6	< 0.5	0.6	0.8
Pyrene	0.5	mg/kg	0.9	1.0	1.4	1.1
Total PAH*	0.5	mg/kg	3.7	3.2	4.2	4.7
2-Fluorobiphenyl (surr.)	1	%	87	111	104	114
p-Terphenyl-d14 (surr.)	1	%	85	102	92	94
Total Organic Carbon	0.1	%	7.2	8.7	22	45
% Moisture	1	%	47	55	49	23
Tributyltin (TBT)			See attached	-	-	See attached
Heavy Metals						
Arsenic	2	mg/kg	11	11	17	6.1
Cadmium	0.4	mg/kg	1.0	0.6	2.8	< 0.4
Chromium	5	mg/kg	34	53	52	16
Copper	5	mg/kg	180	270	190	120
Lead	5	mg/kg	350	250	650	130
Mercury	0.1	mg/kg	1.3	0.7	1.3	0.2
Nickel	5	mg/kg	22	39	27	12
Zinc	5	mg/kg	870	950	1200	300
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5

Client Sample ID			SFM04 0.0-0.1	SFM05 0.0-0.1	SFM05 1.0-1.1	[G01]SFM06 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07251	S20-De07254	S20-De07256	S20-De07258
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Volatile Organics						
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Allyl chloride	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.5
Bromobenzene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Bromochloromethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Bromodichloromethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Bromoform	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Bromomethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Carbon disulfide	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Chlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Chloroethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Chloroform	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Chloromethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Dibromochloromethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Dibromomethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.5
Iodomethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	< 1
Methylene Chloride	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.5
Styrene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Tetrachloroethene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.5
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Trichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Vinyl chloride	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Xylenes - Total*	0.3	mg/kg	< 0.3	-	< 0.3	< 1.5
Total MAH*	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	< 0.5	< 2.5
4-Bromofluorobenzene (surr.)	1	%	55	-	55	70
Toluene-d8 (surr.)	1	%	77	-	63	99

Client Sample ID			SFM04 0.0-0.1	SFM05 0.0-0.1	SFM05 1.0-1.1	[G01] SFM06 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07251	S20-De07254	S20-De07256	S20-De07258
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	-	< 0.2	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	-	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	-	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	71	-	102	95
Tetrachloro-m-xylene (surr.)	1	%	93	-	91	95
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	-	< 0.1	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	-	< 0.5	< 0.5
Dibutylchlorendate (surr.)	1	%	71	-	102	95
Tetrachloro-m-xylene (surr.)	1	%	93	-	91	95
SPOCAS Suite						
pH-KCL	0.1	pH Units	7.9	-	8.7	-
pH-OX	0.1	pH Units	2.9	-	5.1	-
Acid trail - Titratable Actual Acidity	2	mol H+/t	< 2	-	< 2	-
Acid trail - Titratable Peroxide Acidity	2	mol H+/t	360	-	25	-
Acid trail - Titratable Sulfidic Acidity	2	mol H+/t	360	-	25	-
sulfidic - TAA equiv. S% pyrite	0.003	% pyrite S	< 0.003	-	< 0.003	-
sulfidic - TPA equiv. S% pyrite	0.02	% pyrite S	0.57	-	0.04	-
sulfidic - TSA equiv. S% pyrite	0.02	% pyrite S	0.57	-	0.04	-
Sulfur - KCl Extractable	0.02	% S	0.08	-	0.20	-
Sulfur - Peroxide	0.02	% S	0.96	-	2.2	-

Client Sample ID			SFM04 0.0-0.1	SFM05 0.0-0.1	SFM05 1.0-1.1	[G01]SFM06 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07251	S20-De07254	S20-De07256	S20-De07258
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
SPOCAS Suite						
Sulfur - Peroxide Oxidisable Sulfur	0.02	% S	0.88	-	2.0	-
acidity - Peroxide Oxidisable Sulfur	10	mol H+/t	550	-	1200	-
HCl Extractable Sulfur Correction Factor	1	factor	2.0	-	2.0	-
HCl Extractable Sulfur	0.02	% S	n/a	-	n/a	-
Net Acid soluble sulfur	0.02	% S	n/a	-	n/a	-
Net Acid soluble sulfur - acidity units	10	mol H+/t	n/a	-	n/a	-
Net Acid soluble sulfur - equivalent S% pyrite[S02]	0.02	% S	n/a	-	n/a	-
Calcium - KCl Extractable	0.02	% Ca	0.16	-	0.24	-
Calcium - Peroxide	0.02	% Ca	0.31	-	2.0	-
Acid Reacted Calcium	0.02	% Ca	0.15	-	1.8	-
acidity - Acid Reacted Calcium	10	mol H+/t	76	-	880	-
sulfidic - Acid Reacted Ca equiv. S% pyrite	0.02	% S	0.12	-	1.4	-
Magnesium - KCl Extractable	0.02	% Mg	0.10	-	0.14	-
Magnesium - Peroxide	0.02	% Mg	0.21	-	0.51	-
Acid Reacted Magnesium	0.02	% Mg	0.12	-	0.37	-
acidity - Acid Reacted Magnesium	10	mol H+/t	96	-	300	-
sulfidic - Acid Reacted Mg equiv. S% pyrite	0.02	% S	0.15	-	0.49	-
Acid Neutralising Capacity (ANCE)	0.02	% CaCO3	n/a	-	n/a	-
Acid Neutralising Capacity - Acidity units (a-ANCE)	10	mol H+/t	n/a	-	n/a	-
Acid Neutralising Capacity - equivalent S% pyrite(s-ANCE)	0.02	% S	n/a	-	n/a	-
ANC Fineness Factor		factor	1.5	-	1.5	-
SPOCAS - Net Acidity (Sulfur Units)	0.02	% S	0.67	-	0.68	-
SPOCAS - Net Acidity (Acidity Units)	10	mol H+/t	420	-	430	-
SPOCAS - Liming rate	1	kg CaCO3/t	32	-	32	-
Extraneous Material						
<2mm Fraction	0.005	g	130	-	120	-
>2mm Fraction	0.005	g	1.8	-	1.5	-
Analysed Material	0.1	%	99	-	99	-
Extraneous Material	0.1	%	1.3	-	1.2	-

Client Sample ID			SFM06 0.5-0.6	SFM07 0.0-0.1	SFM07 1.0-1.1	[G01]SFM07 1.5-1.6
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07259	S20-De07261	S20-De07263	S20-De07264
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	-	< 20	-	< 100
TRH C10-C14	20	mg/kg	-	29	-	680
TRH C15-C28	50	mg/kg	-	150	-	7700
TRH C29-C36	50	mg/kg	-	< 50	-	2000
TRH C10-C36 (Total)	50	mg/kg	-	179	-	10380
BTEX						
Benzene	0.1	mg/kg	-	< 0.1	-	< 0.5
Toluene	0.1	mg/kg	-	< 0.1	-	< 0.5
Ethylbenzene	0.1	mg/kg	-	< 0.1	-	< 0.5
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-	< 1

Client Sample ID			SFM06 0.5-0.6	SFM07 0.0-0.1	SFM07 1.0-1.1	[G01] SFM07 1.5-1.6
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07259	S20-De07261	S20-De07263	S20-De07264
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
BTEX						
o-Xylene	0.1	mg/kg	-	< 0.1	-	< 0.5
Xylenes - Total*	0.3	mg/kg	-	< 0.3	-	< 1.5
4-Bromofluorobenzene (surr.)	1	%	-	73	-	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	-	< 2.5
TRH C6-C10	20	mg/kg	-	< 20	-	< 100
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	-	< 100
TRH >C10-C16	50	mg/kg	-	< 50	-	1000
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	< 50	-	1000
TRH >C16-C34	100	mg/kg	-	260	-	11000
TRH >C34-C40	100	mg/kg	-	< 100	-	1400
TRH >C10-C40 (total)*	100	mg/kg	-	260	-	13400
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	< 0.5	-	110
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	0.6	-	110
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	1.2	-	110
Acenaphthene	0.5	mg/kg	-	< 0.5	-	10
Acenaphthylene	0.5	mg/kg	-	< 0.5	-	5.3
Anthracene	0.5	mg/kg	-	< 0.5	-	30
Benz(a)anthracene	0.5	mg/kg	-	< 0.5	-	76
Benzo(a)pyrene	0.5	mg/kg	-	< 0.5	-	74
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	< 0.5	-	51
Benzo(g.h.i)perylene	0.5	mg/kg	-	< 0.5	-	38
Benzo(k)fluoranthene	0.5	mg/kg	-	< 0.5	-	73
Chrysene	0.5	mg/kg	-	< 0.5	-	70
Dibenz(a.h)anthracene	0.5	mg/kg	-	< 0.5	-	13
Fluoranthene	0.5	mg/kg	-	< 0.5	-	230
Fluorene	0.5	mg/kg	-	< 0.5	-	21
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	< 0.5	-	37
Naphthalene	0.5	mg/kg	-	< 0.5	-	4.5
Phenanthrene	0.5	mg/kg	-	< 0.5	-	150
Pyrene	0.5	mg/kg	-	0.6	-	190
Total PAH*	0.5	mg/kg	-	0.6	-	1072.8
2-Fluorobiphenyl (surr.)	1	%	-	98	-	89
p-Terphenyl-d14 (surr.)	1	%	-	90	-	82
Total Organic Carbon	0.1	%	-	3.7	-	14
% Moisture	1	%	27	60	40	53
Tributyltin (TBT)			-	-	-	See attached
Heavy Metals						
Arsenic	2	mg/kg	-	12	-	27
Cadmium	0.4	mg/kg	-	1.7	-	13
Chromium	5	mg/kg	-	59	-	580
Copper	5	mg/kg	-	160	-	750
Lead	5	mg/kg	-	520	-	1600
Mercury	0.1	mg/kg	-	0.7	-	6.3
Nickel	5	mg/kg	-	24	-	170
Zinc	5	mg/kg	-	840	-	2900

Client Sample ID			SFM06 0.5-0.6	SFM07 0.0-0.1	SFM07 1.0-1.1	[G01] SFM07 1.5-1.6
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07259	S20-De07261	S20-De07263	S20-De07264
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	-	-	< 2.5
1.1-Dichloroethene	0.5	mg/kg	-	-	-	< 2.5
1.1.1-Trichloroethane	0.5	mg/kg	-	-	-	< 2.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 2.5
1.1.2-Trichloroethane	0.5	mg/kg	-	-	-	< 2.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 2.5
1.2-Dibromoethane	0.5	mg/kg	-	-	-	< 2.5
1.2-Dichlorobenzene	0.5	mg/kg	-	-	-	< 2.5
1.2-Dichloroethane	0.5	mg/kg	-	-	-	< 2.5
1.2-Dichloropropane	0.5	mg/kg	-	-	-	< 2.5
1.2.3-Trichloropropane	0.5	mg/kg	-	-	-	< 2.5
1.2.4-Trimethylbenzene	0.5	mg/kg	-	-	-	< 2.5
1.3-Dichlorobenzene	0.5	mg/kg	-	-	-	< 2.5
1.3-Dichloropropane	0.5	mg/kg	-	-	-	< 2.5
1.3.5-Trimethylbenzene	0.5	mg/kg	-	-	-	< 2.5
1.4-Dichlorobenzene	0.5	mg/kg	-	-	-	< 2.5
2-Butanone (MEK)	0.5	mg/kg	-	-	-	< 2.5
2-Propanone (Acetone)	0.5	mg/kg	-	-	-	< 2.5
4-Chlorotoluene	0.5	mg/kg	-	-	-	< 2.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	-	-	< 2.5
Allyl chloride	0.5	mg/kg	-	-	-	< 2.5
Benzene	0.1	mg/kg	-	-	-	< 0.5
Bromobenzene	0.5	mg/kg	-	-	-	< 2.5
Bromochloromethane	0.5	mg/kg	-	-	-	< 2.5
Bromodichloromethane	0.5	mg/kg	-	-	-	< 2.5
Bromoform	0.5	mg/kg	-	-	-	< 2.5
Bromomethane	0.5	mg/kg	-	-	-	< 2.5
Carbon disulfide	0.5	mg/kg	-	-	-	< 2.5
Carbon Tetrachloride	0.5	mg/kg	-	-	-	< 2.5
Chlorobenzene	0.5	mg/kg	-	-	-	< 2.5
Chloroethane	0.5	mg/kg	-	-	-	< 2.5
Chloroform	0.5	mg/kg	-	-	-	< 2.5
Chloromethane	0.5	mg/kg	-	-	-	< 2.5
cis-1.2-Dichloroethene	0.5	mg/kg	-	-	-	< 2.5
cis-1.3-Dichloropropene	0.5	mg/kg	-	-	-	< 2.5
Dibromochloromethane	0.5	mg/kg	-	-	-	< 2.5
Dibromomethane	0.5	mg/kg	-	-	-	< 2.5
Dichlorodifluoromethane	0.5	mg/kg	-	-	-	< 2.5
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.5
Iodomethane	0.5	mg/kg	-	-	-	< 2.5
Isopropyl benzene (Cumene)	0.5	mg/kg	-	-	-	< 2.5
m&p-Xylenes	0.2	mg/kg	-	-	-	< 1
Methylene Chloride	0.5	mg/kg	-	-	-	< 2.5
o-Xylene	0.1	mg/kg	-	-	-	< 0.5
Styrene	0.5	mg/kg	-	-	-	< 2.5
Tetrachloroethene	0.5	mg/kg	-	-	-	< 2.5
Toluene	0.1	mg/kg	-	-	-	< 0.5
trans-1.2-Dichloroethene	0.5	mg/kg	-	-	-	< 2.5
trans-1.3-Dichloropropene	0.5	mg/kg	-	-	-	< 2.5

Client Sample ID			SFM06 0.5-0.6	SFM07 0.0-0.1	SFM07 1.0-1.1	[G01] SFM07 1.5-1.6
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07259	S20-De07261	S20-De07263	S20-De07264
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Volatile Organics						
Trichloroethene	0.5	mg/kg	-	-	-	< 2.5
Trichlorofluoromethane	0.5	mg/kg	-	-	-	< 2.5
Vinyl chloride	0.5	mg/kg	-	-	-	< 2.5
Xylenes - Total*	0.3	mg/kg	-	-	-	< 1.5
Total MAH*	0.5	mg/kg	-	-	-	< 2.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	-	-	< 2.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	-	-	< 2.5
4-Bromofluorobenzene (surr.)	1	%	-	-	-	79
Toluene-d8 (surr.)	1	%	-	-	-	94
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	-	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	-	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	-	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	-	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	-	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	-	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	-	< 0.2	-	< 0.2
Toxaphene	0.1	mg/kg	-	< 0.1	-	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	-	102	-	89
Tetrachloro-m-xylene (surr.)	1	%	-	92	-	80
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	%	-	102	-	89
Tetrachloro-m-xylene (surr.)	1	%	-	92	-	80

Client Sample ID			SFM06 0.5-0.6	SFM07 0.0-0.1	SFM07 1.0-1.1	[G01]SFM07 1.5-1.6
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07259	S20-De07261	S20-De07263	S20-De07264
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
SPOCAS Suite						
pH-KCL	0.1	pH Units	8.8	-	7.8	-
pH-OX	0.1	pH Units	2.6	-	2.3	-
Acid trail - Titratable Actual Acidity	2	mol H+/t	< 2	-	< 2	-
Acid trail - Titratable Peroxide Acidity	2	mol H+/t	560	-	1400	-
Acid trail - Titratable Sulfidic Acidity	2	mol H+/t	560	-	1400	-
sulfidic - TAA equiv. S% pyrite	0.003	% pyrite S	< 0.003	-	< 0.003	-
sulfidic - TPA equiv. S% pyrite	0.02	% pyrite S	0.90	-	2.3	-
sulfidic - TSA equiv. S% pyrite	0.02	% pyrite S	0.90	-	2.3	-
Sulfur - KCl Extractable	0.02	% S	0.05	-	0.13	-
Sulfur - Peroxide	0.02	% S	0.46	-	3.1	-
Sulfur - Peroxide Oxidisable Sulfur	0.02	% S	0.41	-	3.0	-
acidity - Peroxide Oxidisable Sulfur	10	mol H+/t	250	-	1900	-
HCl Extractable Sulfur Correction Factor	1	factor	2.0	-	2.0	-
HCl Extractable Sulfur	0.02	% S	n/a	-	n/a	-
Net Acid soluble sulfur	0.02	% S	n/a	-	n/a	-
Net Acid soluble sulfur - acidity units	10	mol H+/t	n/a	-	n/a	-
Net Acid soluble sulfur - equivalent S% pyrite[S02]	0.02	% S	n/a	-	n/a	-
Calcium - KCl Extractable	0.02	% Ca	0.13	-	0.20	-
Calcium - Peroxide	0.02	% Ca	0.29	-	0.60	-
Acid Reacted Calcium	0.02	% Ca	0.17	-	0.40	-
acidity - Acid Reacted Calcium	10	mol H+/t	83	-	200	-
sulfidic - Acid Reacted Ca equiv. S% pyrite	0.02	% S	0.13	-	0.32	-
Magnesium - KCl Extractable	0.02	% Mg	0.05	-	0.14	-
Magnesium - Peroxide	0.02	% Mg	0.10	-	0.27	-
Acid Reacted Magnesium	0.02	% Mg	0.05	-	0.14	-
acidity - Acid Reacted Magnesium	10	mol H+/t	40	-	110	-
sulfidic - Acid Reacted Mg equiv. S% pyrite	0.02	% S	0.06	-	0.18	-
Acid Neutralising Capacity (ANCE)	0.02	% CaCO3	n/a	-	n/a	-
Acid Neutralising Capacity - Acidity units (a-ANCE)	10	mol H+/t	n/a	-	n/a	-
Acid Neutralising Capacity - equivalent S% pyrite(s-ANCE)	0.02	% S	n/a	-	n/a	-
ANC Fineness Factor		factor	1.5	-	1.5	-
SPOCAS - Net Acidity (Sulfur Units)	0.02	% S	0.73	-	2.5	-
SPOCAS - Net Acidity (Acidity Units)	10	mol H+/t	460	-	1600	-
SPOCAS - Liming rate	1	kg CaCO3/t	34	-	120	-
Extraneous Material						
<2mm Fraction	0.005	g	83	-	110	-
>2mm Fraction	0.005	g	56	-	< 0.005	-
Analysed Material	0.1	%	60	-	100	-
Extraneous Material	0.1	%	40	-	< 0.1	-

Client Sample ID			SFM09 0.0-0.1	SFM10 0.0-0.1	SFM10 0.5-0.6	[G01]SFM11 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07266	S20-De07269	S20-De07270	S20-De07272
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	< 100
TRH C10-C14	20	mg/kg	40	36	-	130
TRH C15-C28	50	mg/kg	170	250	-	940
TRH C29-C36	50	mg/kg	< 50	< 50	-	89
TRH C10-C36 (Total)	50	mg/kg	210	286	-	1159
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.5
Toluene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.5
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.5
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	-	< 1
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.5
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	-	< 1.5
4-Bromofluorobenzene (surr.)	1	%	56	73	-	74
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	< 2.5
TRH C6-C10	20	mg/kg	< 20	< 20	-	< 100
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	< 100
TRH >C10-C16	50	mg/kg	< 50	< 50	-	130
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	130
TRH >C16-C34	100	mg/kg	290	410	-	1600
TRH >C34-C40	100	mg/kg	< 100	< 100	-	240
TRH >C10-C40 (total)*	100	mg/kg	290	410	-	1970
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	1.0	17	6.8
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	1.3	17	6.8
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.6	17	6.8
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	1.1	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	0.9	< 0.5
Anthracene	0.5	mg/kg	< 0.5	< 0.5	2.7	0.8
Benz(a)anthracene	0.5	mg/kg	< 0.5	0.6	10	2.8
Benzo(a)pyrene	0.5	mg/kg	< 0.5	0.8	11	4.4
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	0.6	7.7	3.1
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	< 0.5	6.2	2.6
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	0.9	11	4.9
Chrysene	0.5	mg/kg	< 0.5	< 0.5	9.0	2.3
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	2.0	1.0
Fluoranthene	0.5	mg/kg	0.6	1.2	30	5.4
Fluorene	0.5	mg/kg	< 0.5	< 0.5	1.7	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	5.8	2.3
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	0.5	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	14	2.0
Pyrene	0.5	mg/kg	0.6	1.5	26	6.2
Total PAH*	0.5	mg/kg	1.2	5.6	139.6	37.8
2-Fluorobiphenyl (surr.)	1	%	95	101	128	107
p-Terphenyl-d14 (surr.)	1	%	83	92	106	93
Total Organic Carbon	0.1	%	20	15	19	14
% Moisture	1	%	65	45	48	43
Tributyltin (TBT)			-	-	-	See attached

Client Sample ID			SFM09 0.0-0.1	SFM10 0.0-0.1	SFM10 0.5-0.6	G01 SFM11 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07266	S20-De07269	S20-De07270	S20-De07272
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	2	mg/kg	6.8	26	34	20
Cadmium	0.4	mg/kg	0.9	4.1	7.6	2.3
Chromium	5	mg/kg	23	87	59	44
Copper	5	mg/kg	140	310	520	290
Lead	5	mg/kg	290	960	1200	510
Mercury	0.1	mg/kg	0.5	1.8	5.7	1.2
Nickel	5	mg/kg	13	44	46	27
Zinc	5	mg/kg	760	1700	2500	1300
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	-	-	< 2.5
1.1-Dichloroethene	0.5	mg/kg	-	-	-	< 2.5
1.1.1-Trichloroethane	0.5	mg/kg	-	-	-	< 2.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 2.5
1.1.2-Trichloroethane	0.5	mg/kg	-	-	-	< 2.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	-	-	< 2.5
1.2-Dibromoethane	0.5	mg/kg	-	-	-	< 2.5
1.2-Dichlorobenzene	0.5	mg/kg	-	-	-	< 2.5
1.2-Dichloroethane	0.5	mg/kg	-	-	-	< 2.5
1.2-Dichloropropane	0.5	mg/kg	-	-	-	< 2.5
1.2.3-Trichloropropane	0.5	mg/kg	-	-	-	< 2.5
1.2.4-Trimethylbenzene	0.5	mg/kg	-	-	-	< 2.5
1.3-Dichlorobenzene	0.5	mg/kg	-	-	-	< 2.5
1.3-Dichloropropane	0.5	mg/kg	-	-	-	< 2.5
1.3.5-Trimethylbenzene	0.5	mg/kg	-	-	-	< 2.5
1.4-Dichlorobenzene	0.5	mg/kg	-	-	-	< 2.5
2-Butanone (MEK)	0.5	mg/kg	-	-	-	< 2.5
2-Propanone (Acetone)	0.5	mg/kg	-	-	-	< 2.5
4-Chlorotoluene	0.5	mg/kg	-	-	-	< 2.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	-	-	< 2.5
Allyl chloride	0.5	mg/kg	-	-	-	< 2.5
Benzene	0.1	mg/kg	-	-	-	< 0.5
Bromobenzene	0.5	mg/kg	-	-	-	< 2.5
Bromochloromethane	0.5	mg/kg	-	-	-	< 2.5
Bromodichloromethane	0.5	mg/kg	-	-	-	< 2.5
Bromoform	0.5	mg/kg	-	-	-	< 2.5
Bromomethane	0.5	mg/kg	-	-	-	< 2.5
Carbon disulfide	0.5	mg/kg	-	-	-	< 2.5
Carbon Tetrachloride	0.5	mg/kg	-	-	-	< 2.5
Chlorobenzene	0.5	mg/kg	-	-	-	< 2.5
Chloroethane	0.5	mg/kg	-	-	-	< 2.5
Chloroform	0.5	mg/kg	-	-	-	< 2.5
Chloromethane	0.5	mg/kg	-	-	-	< 2.5
cis-1.2-Dichloroethene	0.5	mg/kg	-	-	-	< 2.5
cis-1.3-Dichloropropene	0.5	mg/kg	-	-	-	< 2.5
Dibromochloromethane	0.5	mg/kg	-	-	-	< 2.5
Dibromomethane	0.5	mg/kg	-	-	-	< 2.5
Dichlorodifluoromethane	0.5	mg/kg	-	-	-	< 2.5
Ethylbenzene	0.1	mg/kg	-	-	-	< 0.5
Iodomethane	0.5	mg/kg	-	-	-	< 2.5

Client Sample ID			SFM09 0.0-0.1	SFM10 0.0-0.1	SFM10 0.5-0.6	[G01]SFM11 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07266	S20-De07269	S20-De07270	S20-De07272
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Volatile Organics						
Isopropyl benzene (Cumene)	0.5	mg/kg	-	-	-	< 2.5
m&p-Xylenes	0.2	mg/kg	-	-	-	< 1
Methylene Chloride	0.5	mg/kg	-	-	-	< 2.5
o-Xylene	0.1	mg/kg	-	-	-	< 0.5
Styrene	0.5	mg/kg	-	-	-	< 2.5
Tetrachloroethene	0.5	mg/kg	-	-	-	< 2.5
Toluene	0.1	mg/kg	-	-	-	< 0.5
trans-1.2-Dichloroethene	0.5	mg/kg	-	-	-	< 2.5
trans-1.3-Dichloropropene	0.5	mg/kg	-	-	-	< 2.5
Trichloroethene	0.5	mg/kg	-	-	-	< 2.5
Trichlorofluoromethane	0.5	mg/kg	-	-	-	< 2.5
Vinyl chloride	0.5	mg/kg	-	-	-	< 2.5
Xylenes - Total*	0.3	mg/kg	-	-	-	< 1.5
Total MAH*	0.5	mg/kg	-	-	-	< 2.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	-	-	< 2.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	-	-	< 2.5
4-Bromofluorobenzene (surr.)	1	%	-	-	-	74
Toluene-d8 (surr.)	1	%	-	-	-	97
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Methoxychlor	0.2	mg/kg	< 0.2	< 0.2	-	< 0.2
Toxaphene	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	-	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	-	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	-	< 0.2
Dibutylchlorendate (surr.)	1	%	104	92	-	116
Tetrachloro-m-xylene (surr.)	1	%	88	94	-	96

Client Sample ID			SFM09 0.0-0.1	SFM10 0.0-0.1	SFM10 0.5-0.6	[G01]SFM11 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07266	S20-De07269	S20-De07270	S20-De07272
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Polychlorinated Biphenyls						
Aroclor-1016	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1221	0.1	mg/kg	< 0.1	< 0.1	-	< 0.1
Aroclor-1232	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1242	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1248	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1254	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Aroclor-1260	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Total PCB*	0.5	mg/kg	< 0.5	< 0.5	-	< 0.5
Dibutylchlorendate (surr.)	1	%	104	92	-	116
Tetrachloro-m-xylene (surr.)	1	%	88	94	-	96
SPOCAS Suite						
pH-KCL	0.1	pH Units	7.8	8.4	-	-
pH-OX	0.1	pH Units	2.3	2.4	-	-
Acid trail - Titratable Actual Acidity	2	mol H+/t	< 2	< 2	-	-
Acid trail - Titratable Peroxide Acidity	2	mol H+/t	1600	880	-	-
Acid trail - Titratable Sulfidic Acidity	2	mol H+/t	1600	880	-	-
sulfidic - TAA equiv. S% pyrite	0.003	% pyrite S	< 0.003	< 0.003	-	-
sulfidic - TPA equiv. S% pyrite	0.02	% pyrite S	2.5	1.4	-	-
sulfidic - TSA equiv. S% pyrite	0.02	% pyrite S	2.5	1.4	-	-
Sulfur - KCl Extractable	0.02	% S	0.08	0.12	-	-
Sulfur - Peroxide	0.02	% S	1.5	2.6	-	-
Sulfur - Peroxide Oxidisable Sulfur	0.02	% S	1.4	2.5	-	-
acidity - Peroxide Oxidisable Sulfur	10	mol H+/t	870	1600	-	-
HCl Extractable Sulfur Correction Factor	1	factor	2.0	2.0	-	-
HCl Extractable Sulfur	0.02	% S	n/a	n/a	-	-
Net Acid soluble sulfur	0.02	% S	n/a	n/a	-	-
Net Acid soluble sulfur - acidity units	10	mol H+/t	n/a	n/a	-	-
Net Acid soluble sulfur - equivalent S% pyrite[S02]	0.02	% S	n/a	n/a	-	-
Calcium - KCl Extractable	0.02	% Ca	0.32	0.22	-	-
Calcium - Peroxide	0.02	% Ca	0.78	0.94	-	-
Acid Reacted Calcium	0.02	% Ca	0.46	0.73	-	-
acidity - Acid Reacted Calcium	10	mol H+/t	230	360	-	-
sulfidic - Acid Reacted Ca equiv. S% pyrite	0.02	% S	0.37	0.58	-	-
Magnesium - KCl Extractable	0.02	% Mg	0.26	0.10	-	-
Magnesium - Peroxide	0.02	% Mg	0.42	0.31	-	-
Acid Reacted Magnesium	0.02	% Mg	0.16	0.22	-	-
acidity - Acid Reacted Magnesium	10	mol H+/t	130	180	-	-
sulfidic - Acid Reacted Mg equiv. S% pyrite	0.02	% S	0.21	0.29	-	-
Acid Neutralising Capacity (ANCE)	0.02	% CaCO3	n/a	n/a	-	-
Acid Neutralising Capacity - Acidity units (a-ANCE)	10	mol H+/t	n/a	n/a	-	-
Acid Neutralising Capacity - equivalent S% pyrite(s-ANCE)	0.02	% S	n/a	n/a	-	-
ANC Fineness Factor		factor	1.5	1.5	-	-
SPOCAS - Net Acidity (Sulfur Units)	0.02	% S	2.1	1.8	-	-
SPOCAS - Net Acidity (Acidity Units)	10	mol H+/t	1300	1100	-	-
SPOCAS - Liming rate	1	kg CaCO3/t	100	83	-	-

Client Sample ID			SFM09 0.0-0.1	SFM10 0.0-0.1	SFM10 0.5-0.6	[G01]SFM11 0.0-0.1
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07266	S20-De07269	S20-De07270	S20-De07272
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Extraneous Material						
<2mm Fraction	0.005	g	81	89	-	-
>2mm Fraction	0.005	g	1.1	2.1	-	-
Analysed Material	0.1	%	99	98	-	-
Extraneous Material	0.1	%	1.3	2.3	-	-

Client Sample ID			SFM11 0.5-0.6	SFM11 1.0-1.1	SFM12 0.0-0.1	SFM12 0.5-0.6
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07273	S20-De07274	S20-De07276	S20-De07277
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 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	-	70	36	-
TRH C15-C28	50	mg/kg	-	760	350	-
TRH C29-C36	50	mg/kg	-	150	88	-
TRH C10-C36 (Total)	50	mg/kg	-	980	474	-
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	%	-	79	70	-
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	-	95	< 50	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	95	< 50	-
TRH >C16-C34	100	mg/kg	-	1000	540	-
TRH >C34-C40	100	mg/kg	-	120	< 100	-
TRH >C10-C40 (total)*	100	mg/kg	-	1215	540	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	14	2.1	26
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	14	2.3	26
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	14	2.6	26
Acenaphthene	0.5	mg/kg	-	0.8	< 0.5	1.3
Acenaphthylene	0.5	mg/kg	-	0.8	< 0.5	1.7
Anthracene	0.5	mg/kg	-	3.1	< 0.5	4.7
Benz(a)anthracene	0.5	mg/kg	-	9.2	1.2	14
Benzo(a)pyrene	0.5	mg/kg	-	9.6	1.6	17
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	-	7.0	1.1	12
Benzo(g.h.i)perylene	0.5	mg/kg	-	5.2	0.8	8.4
Benzo(k)fluoranthene	0.5	mg/kg	-	9.5	1.6	17
Chrysene	0.5	mg/kg	-	8.8	0.8	16
Dibenz(a.h)anthracene	0.5	mg/kg	-	1.7	< 0.5	3.3

Client Sample ID			SFM11 0.5-0.6	SFM11 1.0-1.1	SFM12 0.0-0.1	SFM12 0.5-0.6
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07273	S20-De07274	S20-De07276	S20-De07277
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.5	mg/kg	-	28	2.6	45
Fluorene	0.5	mg/kg	-	1.3	< 0.5	2.0
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	4.7	0.8	8.2
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	-	12	0.8	16
Pyrene	0.5	mg/kg	-	24	3.0	38
Total PAH*	0.5	mg/kg	-	125.7	14.3	204.6
2-Fluorobiphenyl (surr.)	1	%	-	126	126	148
p-Terphenyl-d14 (surr.)	1	%	-	100	91	99
Total Organic Carbon	0.1	%	-	30	13	12
% Moisture	1	%	52	47	42	50
Heavy Metals						
Arsenic	2	mg/kg	-	26	31	26
Cadmium	0.4	mg/kg	-	7.3	5.3	11
Chromium	5	mg/kg	-	230	76	390
Copper	5	mg/kg	-	530	350	710
Lead	5	mg/kg	-	940	1100	1200
Mercury	0.1	mg/kg	-	5.8	2.8	6.4
Nickel	5	mg/kg	-	67	43	90
Zinc	5	mg/kg	-	2000	2000	2500
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	< 0.1	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	< 0.05	-
a-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
d-BHC	0.05	mg/kg	-	< 0.05	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	< 0.05	-
Methoxychlor	0.2	mg/kg	-	< 0.2	< 0.2	-
Toxaphene	0.1	mg/kg	-	< 0.1	< 0.1	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	< 0.05	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	< 0.2	< 0.2	-
Dibutylchlorendate (surr.)	1	%	-	122	103	-
Tetrachloro-m-xylene (surr.)	1	%	-	102	91	-

Client Sample ID			SFM11 0.5-0.6	SFM11 1.0-1.1	SFM12 0.0-0.1	SFM12 0.5-0.6
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07273	S20-De07274	S20-De07276	S20-De07277
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
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	%	-	122	103	-
Tetrachloro-m-xylene (surr.)	1	%	-	102	91	-
SPOCAS Suite						
pH-KCL	0.1	pH Units	8.5	-	8.2	-
pH-OX	0.1	pH Units	2.4	-	2.4	-
Acid trail - Titratable Actual Acidity	2	mol H+/t	< 2	-	< 2	-
Acid trail - Titratable Peroxide Acidity	2	mol H+/t	930	-	1100	-
Acid trail - Titratable Sulfidic Acidity	2	mol H+/t	930	-	1100	-
sulfidic - TAA equiv. S% pyrite	0.003	% pyrite S	< 0.003	-	< 0.003	-
sulfidic - TPA equiv. S% pyrite	0.02	% pyrite S	1.5	-	1.8	-
sulfidic - TSA equiv. S% pyrite	0.02	% pyrite S	1.5	-	1.8	-
Sulfur - KCl Extractable	0.02	% S	0.14	-	0.12	-
Sulfur - Peroxide	0.02	% S	2.8	-	2.7	-
Sulfur - Peroxide Oxidisable Sulfur	0.02	% S	2.7	-	2.6	-
acidity - Peroxide Oxidisable Sulfur	10	mol H+/t	1700	-	1600	-
HCl Extractable Sulfur Correction Factor	1	factor	2.0	-	2.0	-
HCl Extractable Sulfur	0.02	% S	n/a	-	n/a	-
Net Acid soluble sulfur	0.02	% S	n/a	-	n/a	-
Net Acid soluble sulfur - acidity units	10	mol H+/t	n/a	-	n/a	-
Net Acid soluble sulfur - equivalent S% pyrite[S02]	0.02	% S	n/a	-	n/a	-
Calcium - KCl Extractable	0.02	% Ca	0.22	-	0.22	-
Calcium - Peroxide	0.02	% Ca	0.99	-	0.74	-
Acid Reacted Calcium	0.02	% Ca	0.77	-	0.53	-
acidity - Acid Reacted Calcium	10	mol H+/t	390	-	260	-
sulfidic - Acid Reacted Ca equiv. S% pyrite	0.02	% S	0.62	-	0.42	-
Magnesium - KCl Extractable	0.02	% Mg	0.13	-	0.14	-
Magnesium - Peroxide	0.02	% Mg	0.39	-	0.35	-
Acid Reacted Magnesium	0.02	% Mg	0.25	-	0.21	-
acidity - Acid Reacted Magnesium	10	mol H+/t	210	-	180	-
sulfidic - Acid Reacted Mg equiv. S% pyrite	0.02	% S	0.33	-	0.28	-
Acid Neutralising Capacity (ANCE)	0.02	% CaCO3	n/a	-	n/a	-
Acid Neutralising Capacity - Acidity units (a-ANCE)	10	mol H+/t	n/a	-	n/a	-
Acid Neutralising Capacity - equivalent S% pyrite(s-ANCE)	0.02	% S	n/a	-	n/a	-
ANC Fineness Factor		factor	1.5	-	1.5	-
SPOCAS - Net Acidity (Sulfur Units)	0.02	% S	1.9	-	2.0	-
SPOCAS - Net Acidity (Acidity Units)	10	mol H+/t	1200	-	1300	-
SPOCAS - Liming rate	1	kg CaCO3/t	88	-	95	-

Client Sample ID			SFM11 0.5-0.6	SFM11 1.0-1.1	SFM12 0.0-0.1	SFM12 0.5-0.6
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07273	S20-De07274	S20-De07276	S20-De07277
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Extraneous Material						
<2mm Fraction	0.005	g	140	-	80	-
>2mm Fraction	0.005	g	3.9	-	< 0.005	-
Analysed Material	0.1	%	97	-	100	-
Extraneous Material	0.1	%	2.6	-	< 0.1	-

Client Sample ID			[G01] SFM13 0.0-0.1	[G01] SFM13 1.0-1.1	SFM13 2.0-2.1	QC01
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07279	S20-De07281	S20-De07283	S20-De07284
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 100	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 100	< 100	47	24
TRH C15-C28	50	mg/kg	760	1500	990	200
TRH C29-C36	50	mg/kg	< 250	< 250	160	< 50
TRH C10-C36 (Total)	50	mg/kg	760	1500	1197	224
BTEX						
Benzene	0.1	mg/kg	< 0.5	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.5	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.5	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 1	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.5	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 1.5	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	73	61	64	54
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 2.5	< 0.5	< 0.5	< 0.5
TRH C6-C10	20	mg/kg	< 100	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 100	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 250	< 250	79	< 50
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 250	< 250	79	< 50
TRH >C16-C34	100	mg/kg	1300	2100	1300	340
TRH >C34-C40	100	mg/kg	< 500	< 500	130	< 100
TRH >C10-C40 (total)*	100	mg/kg	1300	2100	1509	340
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	2.8	52	29	1.4
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	3.0	52	29	1.7
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	3.3	52	29	2.0
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	1.8	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5	2.3	1.6	< 0.5
Anthracene	0.5	mg/kg	< 0.5	5.3	9.3	< 0.5
Benz(a)anthracene	0.5	mg/kg	1.4	36	22	0.9
Benzo(a)pyrene	0.5	mg/kg	2.1	34	19	1.1
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	1.5	19	12	0.9
Benzo(g.h.i)perylene	0.5	mg/kg	1.2	16	8.8	0.5
Benzo(k)fluoranthene	0.5	mg/kg	2.4	34	17	1.1
Chrysene	0.5	mg/kg	1.0	33	19	0.7
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	6.7	3.5	< 0.5

Client Sample ID			[G01]SFM13 0.0-0.1	[G01]SFM13 1.0-1.1	SFM13 2.0-2.1	QC01
Sample Matrix			**Sediment**	**Sediment**	**Sediment**	**Sediment**
Eurofins Sample No.			**S20-De07279**	**S20-De07281**	**S20-De07283**	**S20-De07284**
Date Sampled			**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Fluoranthene	0.5	mg/kg	2.2	79	51	2.5
Fluorene	0.5	mg/kg	< 0.5	0.8	4.2	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	1.2	16	8.7	< 0.5
Naphthalene	0.5	mg/kg	< 0.5	0.7	< 0.5	< 0.5
Phenanthrene	0.5	mg/kg	0.9	3.6	30	1.4
Pyrene	0.5	mg/kg	3.7	76	49	2.4
Total PAH*	0.5	mg/kg	17.6	362.4	256.9	11.5
2-Fluorobiphenyl (surr.)	1	%	147	149	148	114
p-Terphenyl-d14 (surr.)	1	%	98	111	100	85
Total Organic Carbon	0.1	%	13	7.9	6.3	-
% Moisture	1	%	56	48	49	57
Tributyltin (TBT)			See attached	-	-	See attached
Heavy Metals						
Arsenic	2	mg/kg	30	25	14	25
Cadmium	0.4	mg/kg	6.0	1.6	1.0	3.3
Chromium	5	mg/kg	70	22	21	59
Copper	5	mg/kg	310	260	250	320
Lead	5	mg/kg	910	3000	450	670
Mercury	0.1	mg/kg	2.4	2.9	1.8	1.8
Nickel	5	mg/kg	33	16	18	27
Zinc	5	mg/kg	2100	930	770	1500
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.1-Dichloroethene	0.5	mg/kg	< 2.5	-	-	< 0.5
1.1.1-Trichloroethane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.1.2-Trichloroethane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.2-Dibromoethane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.2-Dichlorobenzene	0.5	mg/kg	< 2.5	-	-	< 0.5
1.2-Dichloroethane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.2-Dichloropropane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.2.3-Trichloropropane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.2.4-Trimethylbenzene	0.5	mg/kg	< 2.5	-	-	< 0.5
1.3-Dichlorobenzene	0.5	mg/kg	< 2.5	-	-	< 0.5
1.3-Dichloropropane	0.5	mg/kg	< 2.5	-	-	< 0.5
1.3.5-Trimethylbenzene	0.5	mg/kg	< 2.5	-	-	< 0.5
1.4-Dichlorobenzene	0.5	mg/kg	< 2.5	-	-	< 0.5
2-Butanone (MEK)	0.5	mg/kg	< 2.5	-	-	< 0.5
2-Propanone (Acetone)	0.5	mg/kg	< 2.5	-	-	< 0.5
4-Chlorotoluene	0.5	mg/kg	< 2.5	-	-	< 0.5
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 2.5	-	-	< 0.5
Allyl chloride	0.5	mg/kg	< 2.5	-	-	< 0.5
Benzene	0.1	mg/kg	< 0.5	-	-	< 0.1
Bromobenzene	0.5	mg/kg	< 2.5	-	-	< 0.5
Bromochloromethane	0.5	mg/kg	< 2.5	-	-	< 0.5
Bromodichloromethane	0.5	mg/kg	< 2.5	-	-	< 0.5
Bromoform	0.5	mg/kg	< 2.5	-	-	< 0.5

Client Sample ID			[G01]SFM13 0.0-0.1	[G01]SFM13 1.0-1.1	SFM13 2.0-2.1	QC01
Sample Matrix			**Sediment**	**Sediment**	**Sediment**	**Sediment**
Eurofins Sample No.			**S20-De07279**	**S20-De07281**	**S20-De07283**	**S20-De07284**
Date Sampled			**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**
Test/Reference	LOR	Unit				
Volatile Organics						
Bromomethane	0.5	mg/kg	< 2.5	-	-	< 0.5
Carbon disulfide	0.5	mg/kg	< 2.5	-	-	< 0.5
Carbon Tetrachloride	0.5	mg/kg	< 2.5	-	-	< 0.5
Chlorobenzene	0.5	mg/kg	< 2.5	-	-	< 0.5
Chloroethane	0.5	mg/kg	< 2.5	-	-	< 0.5
Chloroform	0.5	mg/kg	< 2.5	-	-	< 0.5
Chloromethane	0.5	mg/kg	< 2.5	-	-	< 0.5
cis-1.2-Dichloroethene	0.5	mg/kg	< 2.5	-	-	< 0.5
cis-1.3-Dichloropropene	0.5	mg/kg	< 2.5	-	-	< 0.5
Dibromochloromethane	0.5	mg/kg	< 2.5	-	-	< 0.5
Dibromomethane	0.5	mg/kg	< 2.5	-	-	< 0.5
Dichlorodifluoromethane	0.5	mg/kg	< 2.5	-	-	< 0.5
Ethylbenzene	0.1	mg/kg	< 0.5	-	-	< 0.1
Iodomethane	0.5	mg/kg	< 2.5	-	-	< 0.5
Isopropyl benzene (Cumene)	0.5	mg/kg	< 2.5	-	-	< 0.5
m&p-Xylenes	0.2	mg/kg	< 1	-	-	< 0.2
Methylene Chloride	0.5	mg/kg	< 2.5	-	-	< 0.5
o-Xylene	0.1	mg/kg	< 0.5	-	-	< 0.1
Styrene	0.5	mg/kg	< 2.5	-	-	< 0.5
Tetrachloroethene	0.5	mg/kg	< 2.5	-	-	< 0.5
Toluene	0.1	mg/kg	< 0.5	-	-	< 0.1
trans-1.2-Dichloroethene	0.5	mg/kg	< 2.5	-	-	< 0.5
trans-1.3-Dichloropropene	0.5	mg/kg	< 2.5	-	-	< 0.5
Trichloroethene	0.5	mg/kg	< 2.5	-	-	< 0.5
Trichlorofluoromethane	0.5	mg/kg	< 2.5	-	-	< 0.5
Vinyl chloride	0.5	mg/kg	< 2.5	-	-	< 0.5
Xylenes - Total*	0.3	mg/kg	< 1.5	-	-	< 0.3
Total MAH*	0.5	mg/kg	< 2.5	-	-	< 0.5
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 2.5	-	-	< 0.5
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 2.5	-	-	< 0.5
4-Bromofluorobenzene (surr.)	1	%	73	-	-	54
Toluene-d8 (surr.)	1	%	90	-	-	64
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
a-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Aldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
b-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
d-BHC	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05

Client Sample ID			[G01]SFM13 0.0-0.1	[G01]SFM13 1.0-1.1	SFM13 2.0-2.1	QC01
Sample Matrix			Sediment	Sediment	Sediment	Sediment
Eurofins Sample No.			S20-De07279	S20-De07281	S20-De07283	S20-De07284
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
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	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Aldrin and Dieldrin (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Dibutylchlorendate (surr.)	1	%	121	140	134	98
Tetrachloro-m-xylene (surr.)	1	%	104	103	101	85
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	%	121	140	134	98
Tetrachloro-m-xylene (surr.)	1	%	104	103	101	85
SPOCAS Suite						
pH-KCL	0.1	pH Units	-	8.5	8.7	-
pH-OX	0.1	pH Units	-	5.9	2.3	-
Acid trail - Titratable Actual Acidity	2	mol H+/t	-	< 2	< 2	-
Acid trail - Titratable Peroxide Acidity	2	mol H+/t	-	< 2	1000	-
Acid trail - Titratable Sulfidic Acidity	2	mol H+/t	-	< 2	1000	-
sulfidic - TAA equiv. S% pyrite	0.003	% pyrite S	-	< 0.003	< 0.003	-
sulfidic - TPA equiv. S% pyrite	0.02	% pyrite S	-	< 0.02	1.6	-
sulfidic - TSA equiv. S% pyrite	0.02	% pyrite S	-	< 0.02	1.6	-
Sulfur - KCl Extractable	0.02	% S	-	0.20	0.08	-
Sulfur - Peroxide	0.02	% S	-	2.8	2.4	-
Sulfur - Peroxide Oxidisable Sulfur	0.02	% S	-	2.6	2.3	-
acidity - Peroxide Oxidisable Sulfur	10	mol H+/t	-	1600	1400	-
HCl Extractable Sulfur Correction Factor	1	factor	-	2.0	2.0	-
HCl Extractable Sulfur	0.02	% S	-	n/a	n/a	-
Net Acid soluble sulfur	0.02	% S	-	n/a	n/a	-
Net Acid soluble sulfur - acidity units	10	mol H+/t	-	n/a	n/a	-
Net Acid soluble sulfur - equivalent S% pyrite[S02]	0.02	% S	-	n/a	n/a	-
Calcium - KCl Extractable	0.02	% Ca	-	0.28	0.18	-
Calcium - Peroxide	0.02	% Ca	-	3.2	0.67	-
Acid Reacted Calcium	0.02	% Ca	-	2.9	0.49	-
acidity - Acid Reacted Calcium	10	mol H+/t	-	1500	240	-
sulfidic - Acid Reacted Ca equiv. S% pyrite	0.02	% S	-	2.3	0.39	-
Magnesium - KCl Extractable	0.02	% Mg	-	0.15	0.08	-
Magnesium - Peroxide	0.02	% Mg	-	0.44	0.26	-
Acid Reacted Magnesium	0.02	% Mg	-	0.30	0.19	-
acidity - Acid Reacted Magnesium	10	mol H+/t	-	240	150	-

Client Sample ID			[G01]SFM13 0.0-0.1	[G01]SFM13 1.0-1.1	SFM13 2.0-2.1	QC01
Sample Matrix			**Sediment**	**Sediment**	**Sediment**	**Sediment**
Eurofins Sample No.			**S20-De07279**	**S20-De07281**	**S20-De07283**	**S20-De07284**
Date Sampled			**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**
Test/Reference	LOR	Unit				
SPOCAS Suite						
sulfidic - Acid Reacted Mg equiv. S% pyrite	0.02	% S	-	0.39	0.25	-
Acid Neutralising Capacity (ANCE)	0.02	% CaCO3	-	n/a	n/a	-
Acid Neutralising Capacity - Acidity units (a-ANCE)	10	mol H+/t	-	n/a	n/a	-
Acid Neutralising Capacity - equivalent S% pyrite(s-ANCE)	0.02	% S	-	n/a	n/a	-
ANC Fineness Factor		factor	-	1.5	1.5	-
SPOCAS - Net Acidity (Sulfur Units)	0.02	% S	-	0.87	1.8	-
SPOCAS - Net Acidity (Acidity Units)	10	mol H+/t	-	540	1100	-
SPOCAS - Liming rate	1	kg CaCO3/t	-	41	86	-
Extraneous Material						
<2mm Fraction	0.005	g	-	69	81	-
>2mm Fraction	0.005	g	-	< 0.005	< 0.005	-
Analysed Material	0.1	%	-	100	100	-
Extraneous Material	0.1	%	-	< 0.1	< 0.1	-

Client Sample ID			QC02
Sample Matrix			**Sediment**
Eurofins Sample No.			**S20-De07285**
Date Sampled			**Nov 30, 2020**
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2
Acenaphthene	0.5	mg/kg	< 0.5
Acenaphthylene	0.5	mg/kg	< 0.5
Anthracene	0.5	mg/kg	< 0.5
Benz(a)anthracene	0.5	mg/kg	< 0.5
Benzo(a)pyrene	0.5	mg/kg	< 0.5
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5
Chrysene	0.5	mg/kg	< 0.5
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5
Fluoranthene	0.5	mg/kg	< 0.5
Fluorene	0.5	mg/kg	< 0.5
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5
Naphthalene	0.5	mg/kg	< 0.5
Phenanthrene	0.5	mg/kg	< 0.5
Pyrene	0.5	mg/kg	< 0.5
Total PAH*	0.5	mg/kg	< 0.5
2-Fluorobiphenyl (surr.)	1	%	143
p-Terphenyl-d14 (surr.)	1	%	88
% Moisture	1	%	35

Client Sample ID			QC02
Sample Matrix			**Sediment**
Eurofins Sample No.			**S20-De07285**
Date Sampled			**Nov 30, 2020**
Test/Reference	LOR	Unit	
Heavy Metals			
Arsenic	2	mg/kg	3.7
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	23
Copper	5	mg/kg	89
Lead	5	mg/kg	85
Mercury	0.1	mg/kg	0.1
Nickel	5	mg/kg	18
Zinc	5	mg/kg	410

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
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Dec 07, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Dec 07, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Dec 07, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Dec 07, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Polycyclic Aromatic Hydrocarbons	Sydney	Dec 07, 2020	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Total Organic Carbon	Melbourne	Dec 14, 2020	28 Days
- Method: LTM-INO-4060 Total Organic Carbon in water and soil			
Metals M8	Sydney	Dec 07, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Volatile Organics	Sydney	Dec 07, 2020	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
% Moisture	Sydney	Dec 03, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			
Organochlorine Pesticides	Sydney	Dec 07, 2020	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Dec 07, 2020	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
SPOCAS Suite			
SPOCAS Suite	Brisbane	Dec 09, 2020	6 Week
- Method: LTM-GEN-7050			
Extraneous Material	Brisbane	Dec 09, 2020	6 Week
- Method: LTM-GEN-7050/7070			

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IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: BLACKWATTLE BAY
Project ID: 60081

Order No.:
Report #: 761093
Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 9, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
1	SFM01 0.0-0.1	Nov 30, 2020		Sediment	S20-De07241			X		X	X						X	X	
2	SFM01 0.5-0.6	Nov 30, 2020		Sediment	S20-De07242		X												
3	SFM01 1.0-1.1	Nov 30, 2020		Sediment	S20-De07243			X	X	X	X			X	X	X	X	X	
4	SFM01 0-1	Nov 30, 2020		Sediment	S20-De07244	X													
5	SFM02 0.0-0.1	Nov 30, 2020		Sediment	S20-De07245			X		X	X			X		X	X	X	
6	SFM02 0.4-0.5	Nov 30, 2020		Sediment	S20-De07246		X												
7	SFM02 0-0.5	Nov 30, 2020		Sediment	S20-De07247	X													
8	SFM03 0.0-0.1	Nov 30, 2020		Sediment	S20-De07248			X		X	X			X		X	X	X	
9	SFM03 0.5-0.6	Nov 30, 2020		Sediment	S20-De07249		X												

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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: BLACKWATTLE BAY
Project ID: 60081

Order No.:
Report #: 761093
Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 9, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
10	SFM03 0-0.6	Nov 30, 2020		Sediment	S20-De07250	X													
11	SFM04 0.0-0.1	Nov 30, 2020		Sediment	S20-De07251			X	X	X	X			X	X	X	X	X	
12	SFM04 0.4-0.5	Nov 30, 2020		Sediment	S20-De07252		X												
13	SFM04 0-0.4	Nov 30, 2020		Sediment	S20-De07253	X													
14	SFM05 0.0-0.1	Nov 30, 2020		Sediment	S20-De07254			X		X	X						X	X	
15	SFM05 0.5-0.6	Nov 30, 2020		Sediment	S20-De07255		X												
16	SFM05 1.0-1.1	Nov 30, 2020		Sediment	S20-De07256			X		X	X			X	X	X	X	X	
17	SFM05 0-1	Nov 30, 2020		Sediment	S20-De07257	X													
18	SFM06 0.0-0.1	Nov 30, 2020		Sediment	S20-De07258			X	X	X	X			X	X		X	X	
19	SFM06 0.5-0.6	Nov 30, 2020		Sediment	S20-De07259											X	X		
20	SFM06 0-1	Nov 30, 2020		Sediment	S20-De07260	X													

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Project ID: 60081

Order No.:
Report #: 761093
Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 9, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
21	SFM07 0.0-0.1	Nov 30, 2020		Sediment	S20-De07261			X		X	X			X			X	X	
22	SFM07 0.5-0.6	Nov 30, 2020		Sediment	S20-De07262		X												
23	SFM07 1.0-1.1	Nov 30, 2020		Sediment	S20-De07263											X	X		
24	SFM07 1.5-1.6	Nov 30, 2020		Sediment	S20-De07264			X	X	X	X			X	X		X	X	
25	SFM08 0.0-0.1	Nov 30, 2020		Sediment	S20-De07265		X												
26	SFM09 0.0-0.1	Nov 30, 2020		Sediment	S20-De07266			X		X	X			X		X	X	X	
27	SFM09 0.5-0.6	Nov 30, 2020		Sediment	S20-De07267		X												
28	SFM09 0.0-0.6	Nov 30, 2020		Sediment	S20-De07268	X													
29	SFM10 0.0-0.1	Nov 30, 2020		Sediment	S20-De07269			X		X	X			X		X	X	X	
30	SFM10 0.5-0.6	Nov 30, 2020		Sediment	S20-De07270			X		X	X						X		
31	SFM10 0.0-0.6	Nov 30, 2020		Sediment	S20-De07271	X													

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Project ID: 60081

Order No.:
Report #: 761093
Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 9, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
32	SFM11 0.0-0.1	Nov 30, 2020		Sediment	S20-De07272			X	X	X	X			X	X		X	X	
33	SFM11 0.5-0.6	Nov 30, 2020		Sediment	S20-De07273											X	X		
34	SFM11 1.0-1.1	Nov 30, 2020		Sediment	S20-De07274			X		X	X			X			X	X	
35	SFM11 0.0-1.0	Nov 30, 2020		Sediment	S20-De07275	X													
36	SFM12 0.0-0.1	Nov 30, 2020		Sediment	S20-De07276			X		X	X			X		X	X	X	
37	SFM12 0.5-0.6	Nov 30, 2020		Sediment	S20-De07277			X		X	X						X		
38	SFM12 0.0-0.6	Nov 30, 2020		Sediment	S20-De07278	X													
39	SFM13 0.0-0.1	Nov 30, 2020		Sediment	S20-De07279			X	X	X	X			X	X		X	X	
40	SFM13 0.5-0.6	Nov 30, 2020		Sediment	S20-De07280		X												
41	SFM13 1.0-1.1	Nov 30, 2020		Sediment	S20-De07281			X		X	X			X		X	X	X	
42	SFM13 1.5-1.6	Nov 30, 2020		Sediment	S20-De07282		X												

eurofins | Environment Testing

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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
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NSW 2000

Project Name: BLACKWATTLE BAY
Project ID: 60081

Order No.:
Report #: 761093
Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 9, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
43	SFM13 2.0-2.1	Nov 30, 2020		Sediment	S20-De07283			X		X	X			X		X	X	X	
44	QC01	Nov 30, 2020		Sediment	S20-De07284				X	X	X			X	X		X	X	
45	QC02	Nov 30, 2020		Sediment	S20-De07285					X	X						X		
46	AS_QC01	Nov 30, 2020		Sediment	S20-De07286	X													
47	TRIP SPIKE	Nov 30, 2020		Water	S20-De07287														X
48	TRIP BLANK	Nov 30, 2020		Water	S20-De07288								X						
49	RINSATE	Nov 30, 2020		Water	S20-De07289					X		X		X				X	
50	SFM07 0-1	Nov 30, 2020		Sediment	S20-De07290	X													
51	SFM07 1-1.6	Nov 30, 2020		Sediment	S20-De07291	X													
52	SFM13 0-1	Nov 30, 2020		Sediment	S20-De07292	X													
53	SFM13 1-2	Nov 30, 2020		Sediment	S20-De07293	X													

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Sample Detail						Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
54	SFM06 1.0-1.1	Nov 30, 2020		Sediment	S20-De07459		X												
Test Counts						15	11	20	7	23	22	1	1	18	8	13	25	20	1

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/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							
Total Organic Carbon	%	< 0.1			0.1	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	
Method Blank							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Volatile Organics							
1.1-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
1.1.1-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.1.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2-Trichloroethane	mg/kg	< 0.5			0.5	Pass	
1.1.2.2-Tetrachloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dibromoethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloroethane	mg/kg	< 0.5			0.5	Pass	
1.2-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	mg/kg	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
1.3-Dichloropropane	mg/kg	< 0.5			0.5	Pass	
1.3.5-Trimethylbenzene	mg/kg	< 0.5			0.5	Pass	
1.4-Dichlorobenzene	mg/kg	< 0.5			0.5	Pass	
2-Butanone (MEK)	mg/kg	< 0.5			0.5	Pass	
2-Propanone (Acetone)	mg/kg	< 0.5			0.5	Pass	
4-Chlorotoluene	mg/kg	< 0.5			0.5	Pass	
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Bromobenzene	mg/kg	< 0.5			0.5	Pass	
Bromochloromethane	mg/kg	< 0.5			0.5	Pass	
Bromodichloromethane	mg/kg	< 0.5			0.5	Pass	
Bromoform	mg/kg	< 0.5			0.5	Pass	
Bromomethane	mg/kg	< 0.5			0.5	Pass	
Carbon disulfide	mg/kg	< 0.5			0.5	Pass	
Carbon Tetrachloride	mg/kg	< 0.5			0.5	Pass	
Chlorobenzene	mg/kg	< 0.5			0.5	Pass	
Chloroethane	mg/kg	< 0.5			0.5	Pass	
Chloroform	mg/kg	< 0.5			0.5	Pass	
Chloromethane	mg/kg	< 0.5			0.5	Pass	
cis-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
cis-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Dibromochloromethane	mg/kg	< 0.5			0.5	Pass	
Dibromomethane	mg/kg	< 0.5			0.5	Pass	
Dichlorodifluoromethane	mg/kg	< 0.5			0.5	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.2-Dichloroethene	mg/kg	< 0.5			0.5	Pass	
trans-1.3-Dichloropropene	mg/kg	< 0.5			0.5	Pass	
Trichloroethene	mg/kg	< 0.5			0.5	Pass	
Trichlorofluoromethane	mg/kg	< 0.5			0.5	Pass	
Vinyl chloride	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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
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	< 0.1			0.1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.5			0.5	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.5			0.5	Pass	
Aroclor-1242	mg/kg	< 0.5			0.5	Pass	
Aroclor-1248	mg/kg	< 0.5			0.5	Pass	
Aroclor-1254	mg/kg	< 0.5			0.5	Pass	
Aroclor-1260	mg/kg	< 0.5			0.5	Pass	
Total PCB*	mg/kg	< 0.5			0.5	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	98			70-130	Pass	
TRH C10-C14	%	112			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	116			70-130	Pass	
Toluene	%	107			70-130	Pass	
Ethylbenzene	%	111			70-130	Pass	
m&p-Xylenes	%	102			70-130	Pass	
o-Xylene	%	106			70-130	Pass	
Xylenes - Total*	%	103			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	92			70-130	Pass	
TRH C6-C10	%	92			70-130	Pass	
TRH >C10-C16	%	112			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	90			70-130	Pass	
Acenaphthylene	%	106			70-130	Pass	
Anthracene	%	97			70-130	Pass	
Benz(a)anthracene	%	93			70-130	Pass	
Benzo(a)pyrene	%	85			70-130	Pass	
Benzo(b&j)fluoranthene	%	86			70-130	Pass	
Benzo(g.h.i)perylene	%	89			70-130	Pass	
Benzo(k)fluoranthene	%	97			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	%	87			70-130	Pass	
Dibenz(a.h)anthracene	%	87			70-130	Pass	
Fluoranthene	%	102			70-130	Pass	
Fluorene	%	92			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	86			70-130	Pass	
Naphthalene	%	91			70-130	Pass	
Phenanthrene	%	90			70-130	Pass	
Pyrene	%	92			70-130	Pass	
LCS - % Recovery							
Total Organic Carbon	%	99			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	98			80-120	Pass	
Cadmium	%	103			80-120	Pass	
Chromium	%	103			80-120	Pass	
Copper	%	104			80-120	Pass	
Lead	%	103			80-120	Pass	
Mercury	%	97			80-120	Pass	
Nickel	%	101			80-120	Pass	
Zinc	%	105			80-120	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	110			70-130	Pass	
1.1.1-Trichloroethane	%	95			70-130	Pass	
1.2-Dichlorobenzene	%	108			70-130	Pass	
1.2-Dichloroethane	%	104			70-130	Pass	
Trichloroethene	%	100			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	99			70-130	Pass	
4.4'-DDD	%	98			70-130	Pass	
4.4'-DDE	%	87			70-130	Pass	
4.4'-DDT	%	112			70-130	Pass	
a-BHC	%	82			70-130	Pass	
Aldrin	%	87			70-130	Pass	
b-BHC	%	96			70-130	Pass	
d-BHC	%	82			70-130	Pass	
Dieldrin	%	102			70-130	Pass	
Endosulfan I	%	98			70-130	Pass	
Endosulfan II	%	97			70-130	Pass	
Endosulfan sulphate	%	91			70-130	Pass	
Endrin	%	113			70-130	Pass	
Endrin aldehyde	%	114			70-130	Pass	
Endrin ketone	%	91			70-130	Pass	
g-BHC (Lindane)	%	85			70-130	Pass	
Heptachlor	%	101			70-130	Pass	
Heptachlor epoxide	%	108			70-130	Pass	
Hexachlorobenzene	%	86			70-130	Pass	
Methoxychlor	%	107			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	80			70-130	Pass	
Aroclor-1260	%	88			70-130	Pass	
LCS - % Recovery							

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
SPOCAS Suite									
pH-KCL			%	97			80-120	Pass	
Acid trail - Titratable Actual Acidity			%	107			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S20-De07383	NCP	%	100			70-130	Pass	
Acenaphthylene	S20-De07383	NCP	%	101			70-130	Pass	
Anthracene	S20-De07383	NCP	%	123			70-130	Pass	
Benz(a)anthracene	S20-De07383	NCP	%	110			70-130	Pass	
Benzo(a)pyrene	S20-De07383	NCP	%	107			70-130	Pass	
Benzo(b&j)fluoranthene	S20-De07383	NCP	%	106			70-130	Pass	
Benzo(g.h.i)perylene	S20-De07383	NCP	%	123			70-130	Pass	
Benzo(k)fluoranthene	S20-De07383	NCP	%	90			70-130	Pass	
Chrysene	S20-De07383	NCP	%	93			70-130	Pass	
Dibenz(a.h)anthracene	S20-De07383	NCP	%	94			70-130	Pass	
Fluoranthene	S20-De07383	NCP	%	103			70-130	Pass	
Fluorene	S20-De07383	NCP	%	100			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S20-De07383	NCP	%	89			70-130	Pass	
Naphthalene	S20-De07383	NCP	%	97			70-130	Pass	
Phenanthrene	S20-De07383	NCP	%	99			70-130	Pass	
Pyrene	S20-De07383	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Copper	S20-De15108	NCP	%	103			75-125	Pass	
Lead	S20-De15108	NCP	%	103			75-125	Pass	
Zinc	S20-De15108	NCP	%	109			75-125	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
Chlordanes - Total	S20-De13906	NCP	%	83			70-130	Pass	
4.4'-DDD	S20-De13906	NCP	%	87			70-130	Pass	
4.4'-DDE	S20-De13906	NCP	%	85			70-130	Pass	
4.4'-DDT	S20-De13906	NCP	%	96			70-130	Pass	
a-BHC	S20-De13906	NCP	%	83			70-130	Pass	
Aldrin	S20-De13906	NCP	%	80			70-130	Pass	
b-BHC	S20-De13906	NCP	%	82			70-130	Pass	
d-BHC	S20-De13906	NCP	%	93			70-130	Pass	
Dieldrin	S20-De13906	NCP	%	80			70-130	Pass	
Endosulfan I	S20-De13906	NCP	%	83			70-130	Pass	
Endosulfan II	S20-De13906	NCP	%	79			70-130	Pass	
Endosulfan sulphate	S20-De13906	NCP	%	80			70-130	Pass	
Endrin	S20-De13906	NCP	%	75			70-130	Pass	
Endrin aldehyde	S20-De01024	NCP	%	90			70-130	Pass	
Endrin ketone	S20-De13906	NCP	%	121			70-130	Pass	
g-BHC (Lindane)	S20-De13906	NCP	%	96			70-130	Pass	
Heptachlor	S20-De13906	NCP	%	80			70-130	Pass	
Heptachlor epoxide	S20-De13906	NCP	%	123			70-130	Pass	
Hexachlorobenzene	S20-De13906	NCP	%	76			70-130	Pass	
Methoxychlor	S20-De13906	NCP	%	95			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1016	S20-De13906	NCP	%	87			70-130	Pass	
Aroclor-1260	S20-De13906	NCP	%	97			70-130	Pass	
Spike - % Recovery									

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	S20-De07245	CP	%	73			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S20-De07245	CP	%	80			70-130	Pass	
Toluene	S20-De07245	CP	%	79			70-130	Pass	
Ethylbenzene	S20-De07245	CP	%	79			70-130	Pass	
m&p-Xylenes	S20-De07245	CP	%	71			70-130	Pass	
o-Xylene	S20-De07245	CP	%	77			70-130	Pass	
Xylenes - Total*	S20-De07245	CP	%	73			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S20-De07245	CP	%	74			70-130	Pass	
TRH C6-C10	S20-De07245	CP	%	71			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-De07272	CP	%	92			75-125	Pass	
Cadmium	S20-De07272	CP	%	93			75-125	Pass	
Chromium	S20-De07272	CP	%	83			75-125	Pass	
Mercury	S20-De07272	CP	%	110			75-125	Pass	
Nickel	S20-De07272	CP	%	78			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C10-C14	S20-De07274	CP	%	127			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S20-De07274	CP	%	129			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-De07243	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-De07243	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S20-De07243	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S20-De07243	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S20-De07243	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S20-De07243	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S20-De07243	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S20-De07243	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.1-Dichloroethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1-Dichloroethene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1-Trichloroethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.1.2-Tetrachloroethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2-Trichloroethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.1.2.2-Tetrachloroethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dibromoethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichlorobenzene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2-Dichloroethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate									
Volatile Organics				Result 1	Result 2	RPD			
1.2-Dichloropropane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.3-Trichloropropane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.2.4-Trimethylbenzene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichlorobenzene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3-Dichloropropane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.3.5-Trimethylbenzene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
1.4-Dichlorobenzene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Butanone (MEK)	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2-Propanone (Acetone)	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chlorotoluene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Methyl-2-pentanone (MIBK)	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Allyl chloride	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromobenzene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromochloromethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromodichloromethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromoform	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Bromomethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon disulfide	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Carbon Tetrachloride	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chlorobenzene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloroform	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chloromethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.2-Dichloroethene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
cis-1.3-Dichloropropene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromochloromethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibromomethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dichlorodifluoromethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Iodomethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Isopropyl benzene (Cumene)	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Methylene Chloride	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Styrene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Tetrachloroethene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.2-Dichloroethene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
trans-1.3-Dichloropropene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichloroethene	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Trichlorofluoromethane	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Vinyl chloride	S20-De07243	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Toxaphene	S20-De19883	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
SPOCAS Suite				Result 1	Result 2	RPD			
pH-KCL	S20-De07243	CP	pH Units	8.5	8.5	1.0	30%	Pass	
pH-OX	S20-De07243	CP	pH Units	2.9	2.9	<1	30%	Pass	
Acid trail - Titratable Actual Acidity	S20-De07243	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Acid trail - Titratable Peroxide Acidity	S20-De07243	CP	mol H+/t	440	420	5.0	30%	Pass	
Acid trail - Titratable Sulfidic Acidity	S20-De07243	CP	mol H+/t	440	420	5.0	30%	Pass	
sulfidic - TAA equiv. S% pyrite	S20-De07243	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
sulfidic - TPA equiv. S% pyrite	S20-De07243	CP	% pyrite S	0.70	0.67	5.0	30%	Pass	
sulfidic - TSA equiv. S% pyrite	S20-De07243	CP	% pyrite S	0.70	0.67	5.0	30%	Pass	
Sulfur - KCl Extractable	S20-De07243	CP	% S	0.13	0.12	5.0	30%	Pass	
Sulfur - Peroxide	S20-De07243	CP	% S	2.1	2.1	<1	30%	Pass	

Duplicate									
SPOCAS Suite				Result 1	Result 2	RPD			
Sulfur - Peroxide Oxidisable Sulfur	S20-De07243	CP	% S	1.9	1.9	<1	30%	Pass	
acidity - Peroxide Oxidisable Sulfur	S20-De07243	CP	mol H+/t	1200	1200	<1	30%	Pass	
HCl Extractable Sulfur	S20-De07243	CP	% S	n/a	n/a	n/a	30%	Pass	
Net Acid soluble sulfur	S20-De07243	CP	% S	n/a	n/a	n/a	30%	Pass	
Net Acid soluble sulfur - acidity units	S20-De07243	CP	mol H+/t	n/a	n/a	n/a	30%	Pass	
Net Acid soluble sulfur - equivalent S% pyrite	S20-De07243	CP	% S	n/a	n/a	n/a	30%	Pass	
Calcium - KCl Extractable	S20-De07243	CP	% Ca	0.21	0.20	3.0	30%	Pass	
Calcium - Peroxide	S20-De07243	CP	% Ca	1.5	1.5	1.0	30%	Pass	
Acid Reacted Calcium	S20-De07243	CP	% Ca	1.3	1.3	2.0	30%	Pass	
acidity - Acid Reacted Calcium	S20-De07243	CP	mol H+/t	640	650	2.0	30%	Pass	
sulfidic - Acid Reacted Ca equiv. S% pyrite	S20-De07243	CP	% S	1.0	1.0	2.0	30%	Pass	
Magnesium - KCl Extractable	S20-De07243	CP	% Mg	0.09	0.09	4.0	30%	Pass	
Magnesium - Peroxide	S20-De07243	CP	% Mg	0.31	0.30	<1	30%	Pass	
Acid Reacted Magnesium	S20-De07243	CP	% Mg	0.21	0.21	1.0	30%	Pass	
acidity - Acid Reacted Magnesium	S20-De07243	CP	mol H+/t	170	180	1.0	30%	Pass	
sulfidic - Acid Reacted Mg equiv. S% pyrite	S20-De07243	CP	% S	0.28	0.28	1.0	30%	Pass	
Acid Neutralising Capacity (ANCE)	S20-De07243	CP	% CaCO3	n/a	n/a	n/a	30%	Pass	
Acid Neutralising Capacity - Acidity units (a-ANCE)	S20-De07243	CP	mol H+/t	n/a	n/a	n/a	30%	Pass	
ANC Fineness Factor	S20-De07243	CP	factor	1.5	1.5	<1	30%	Pass	
SPOCAS - Liming rate	S20-De07243	CP	kg CaCO3/t	52	51	2.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-De07245	CP	%	33	33	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Organic Carbon	S20-De07264	CP	%	14	16	8.9	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-De07266	CP	%	65	67	2.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-De07269	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-De07269	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S20-De07269	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S20-De07269	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S20-De07269	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S20-De07269	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S20-De07269	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S20-De07269	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S20-De07269	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Total Organic Carbon	S20-De07270	CP	%	19	14	30	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-De07270	CP	mg/kg	34	40	17	30%	Pass	
Cadmium	S20-De07270	CP	mg/kg	7.6	11	34	30%	Fail	Q15
Chromium	S20-De07270	CP	mg/kg	59	72	19	30%	Pass	
Copper	S20-De07270	CP	mg/kg	520	570	10	30%	Pass	
Lead	S20-De07270	CP	mg/kg	1200	1400	12	30%	Pass	
Mercury	S20-De07270	CP	mg/kg	5.7	6.3	10	30%	Pass	
Nickel	S20-De07270	CP	mg/kg	46	50	9.0	30%	Pass	
Zinc	S20-De07270	CP	mg/kg	2500	2900	13	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	S20-De07272	CP	mg/kg	130	180	30	30%	Pass	
TRH C15-C28	S20-De07272	CP	mg/kg	940	970	3.0	30%	Pass	
TRH C29-C36	S20-De07272	CP	mg/kg	89	92	3.0	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S20-De07272	CP	mg/kg	130	180	30	30%	Pass	
TRH >C16-C34	S20-De07272	CP	mg/kg	1600	1600	2.0	30%	Pass	
TRH >C34-C40	S20-De07272	CP	mg/kg	240	260	6.0	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-De07272	CP	mg/kg	< 0.5	0.5	200	30%	Fail	Q15
Acenaphthylene	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-De07272	CP	mg/kg	0.8	0.7	9.0	30%	Pass	
Benz(a)anthracene	S20-De07272	CP	mg/kg	2.8	2.7	4.0	30%	Pass	
Benzo(a)pyrene	S20-De07272	CP	mg/kg	4.4	4.1	7.0	30%	Pass	
Benzo(b&j)fluoranthene	S20-De07272	CP	mg/kg	3.1	3.0	4.0	30%	Pass	
Benzo(g.h.i)perylene	S20-De07272	CP	mg/kg	2.6	2.5	5.0	30%	Pass	
Benzo(k)fluoranthene	S20-De07272	CP	mg/kg	4.9	4.6	6.0	30%	Pass	
Chrysene	S20-De07272	CP	mg/kg	2.3	2.2	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-De07272	CP	mg/kg	1.0	0.9	6.0	30%	Pass	
Fluoranthene	S20-De07272	CP	mg/kg	5.4	6.1	12	30%	Pass	
Fluorene	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-De07272	CP	mg/kg	2.3	2.2	5.0	30%	Pass	
Naphthalene	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-De07272	CP	mg/kg	2.0	2.8	34	30%	Fail	Q15
Pyrene	S20-De07272	CP	mg/kg	6.2	6.3	2.0	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S20-De07272	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	

Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Heptachlor	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S20-De07272	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S20-De07272	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1221	S20-De07272	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1242	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1248	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1254	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Aroclor-1260	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Total PCB*	S20-De07272	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
SPOCAS Suite				Result 1	Result 2	RPD			
pH-KCL	S20-De07276	CP	pH Units	8.2	8.3	2.0	30%	Pass	
pH-OX	S20-De07276	CP	pH Units	2.4	2.4	1.0	30%	Pass	
Acid trail - Titratable Actual Acidity	S20-De07276	CP	mol H+/t	< 2	< 2	<1	30%	Pass	
Acid trail - Titratable Peroxide Acidity	S20-De07276	CP	mol H+/t	1100	1100	2.0	30%	Pass	
Acid trail - Titratable Sulfidic Acidity	S20-De07276	CP	mol H+/t	1100	1100	2.0	30%	Pass	
sulfidic - TAA equiv. S% pyrite	S20-De07276	CP	% pyrite S	< 0.003	< 0.003	<1	30%	Pass	
sulfidic - TPA equiv. S% pyrite	S20-De07276	CP	% pyrite S	1.8	1.8	2.0	30%	Pass	
sulfidic - TSA equiv. S% pyrite	S20-De07276	CP	% pyrite S	1.8	1.8	2.0	30%	Pass	
Sulfur - KCl Extractable	S20-De07276	CP	% S	0.12	0.11	5.0	30%	Pass	
Sulfur - Peroxide	S20-De07276	CP	% S	2.7	2.7	1.0	30%	Pass	
Sulfur - Peroxide Oxidisable Sulfur	S20-De07276	CP	% S	2.6	2.6	1.0	30%	Pass	
acidity - Peroxide Oxidisable Sulfur	S20-De07276	CP	mol H+/t	1600	1600	1.0	30%	Pass	
HCl Extractable Sulfur	S20-De07276	CP	% S	n/a	n/a	n/a	30%	Pass	
Net Acid soluble sulfur	S20-De07276	CP	% S	n/a	n/a	n/a	30%	Pass	
Net Acid soluble sulfur - acidity units	S20-De07276	CP	mol H+/t	n/a	n/a	n/a	30%	Pass	
Net Acid soluble sulfur - equivalent S% pyrite	S20-De07276	CP	% S	n/a	n/a	n/a	30%	Pass	
Calcium - KCl Extractable	S20-De07276	CP	% Ca	0.22	0.21	4.0	30%	Pass	
Calcium - Peroxide	S20-De07276	CP	% Ca	0.74	0.74	<1	30%	Pass	
Acid Reacted Calcium	S20-De07276	CP	% Ca	0.53	0.53	1.0	30%	Pass	
acidity - Acid Reacted Calcium	S20-De07276	CP	mol H+/t	260	270	1.0	30%	Pass	
sulfidic - Acid Reacted Ca equiv. S% pyrite	S20-De07276	CP	% S	0.42	0.42	1.0	30%	Pass	
Magnesium - KCl Extractable	S20-De07276	CP	% Mg	0.14	0.13	4.0	30%	Pass	
Magnesium - Peroxide	S20-De07276	CP	% Mg	0.35	0.35	1.0	30%	Pass	
Acid Reacted Magnesium	S20-De07276	CP	% Mg	0.21	0.22	1.0	30%	Pass	
acidity - Acid Reacted Magnesium	S20-De07276	CP	mol H+/t	180	180	1.0	30%	Pass	
sulfidic - Acid Reacted Mg equiv. S% pyrite	S20-De07276	CP	% S	0.28	0.29	1.0	30%	Pass	
Acid Neutralising Capacity (ANCE)	S20-De07276	CP	% CaCO3	n/a	n/a	n/a	30%	Pass	
Acid Neutralising Capacity - Acidity units (a-ANCE)	S20-De07276	CP	mol H+/t	n/a	n/a	n/a	30%	Pass	
ANC Fineness Factor	S20-De07276	CP	factor	1.5	1.5	<1	30%	Pass	
SPOCAS - Liming rate	S20-De07276	CP	kg CaCO3/t	95	96	1.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-De07281	CP	%	48	49	4.0	30%	Pass	

Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	S20-De07283	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S20-De07283	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S20-De07283	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S20-De07283	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S20-De07283	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S20-De07283	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S20-De07283	CP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S20-De07283	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	S20-De07283	CP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g.h.i)perylene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Dibenz(a.h)anthracene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Fluoranthene	S20-De07285	CP	mg/kg	< 0.5	0.6	78	30%	Fail	Q15
Fluorene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Indeno(1.2.3-cd)pyrene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Naphthalene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Phenanthrene	S20-De07285	CP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Pyrene	S20-De07285	CP	mg/kg	< 0.5	0.7	57	30%	Fail	Q15
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	S20-De07285	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	S20-De07285	CP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	S20-De07285	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	

Comments

TBT analysed by NMI, NATA accreditation number 198, report reference RN1297570.

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
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
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.
S02	Retained Acidity is Reported when the pHKCl is less than pH 4.5

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)
Myles Clark	Senior Analyst-SPOCAS (QLD)
Nibha Vaidya	Senior Analyst-Asbestos (NSW)
Scott Beddoes	Senior Analyst-Inorganic (VIC)

Glenn Jackson

General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Chris Bielby**

Report **761093-W**
Project name BLACKWATTLE BAY
Project ID 60081
Received Date Dec 03, 2020

Client Sample ID			**TRIP SPIKE**	**TRIP BLANK**	**RINSATE**
Sample Matrix			**Water**	**Water**	**Water**
Eurofins Sample No.			**S20-De07287**	**S20-De07288**	**S20-De07289**
Date Sampled			**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**
Test/Reference	LOR	Unit			
BTEX					
Benzene	1	%	100	-	-
Ethylbenzene	1	%	97	-	-
m&p-Xylenes	1	%	100	-	-
o-Xylene	1	%	92	-	-
Toluene	1	%	99	-	-
Xylenes - Total	1	%	96	-	-
4-Bromofluorobenzene (surr.)	1	%	97	-	-
BTEX					
Benzene	0.001	mg/L	-	< 0.001	< 0.001
Toluene	0.001	mg/L	-	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	-	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	-	< 0.002	< 0.002
o-Xylene	0.001	mg/L	-	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	-	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	99	96
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	0.02	mg/L	-	-	< 0.02
TRH C10-C14	0.05	mg/L	-	-	< 0.05
TRH C15-C28	0.1	mg/L	-	-	< 0.1
TRH C29-C36	0.1	mg/L	-	-	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	-	-	< 0.1
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.01	mg/L	-	-	< 0.01
TRH C6-C10	0.02	mg/L	-	-	< 0.02
TRH C6-C10 less BTEX (F1)[N04]	0.02	mg/L	-	-	< 0.02
TRH >C10-C16	0.05	mg/L	-	-	< 0.05
TRH >C10-C16 less Naphthalene (F2)[N01]	0.05	mg/L	-	-	< 0.05
TRH >C16-C34	0.1	mg/L	-	-	< 0.1
TRH >C34-C40	0.1	mg/L	-	-	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	-	-	< 0.1
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	-	-	< 0.001
Acenaphthylene	0.001	mg/L	-	-	< 0.001
Anthracene	0.001	mg/L	-	-	< 0.001
Benz(a)anthracene	0.001	mg/L	-	-	< 0.001

Client Sample ID			TRIP SPIKE	TRIP BLANK	RINSATE
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S20-De07287	S20-De07288	S20-De07289
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene	0.001	mg/L	-	-	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	-	-	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	-	-	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	-	-	< 0.001
Chrysene	0.001	mg/L	-	-	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	-	-	< 0.001
Fluoranthene	0.001	mg/L	-	-	< 0.001
Fluorene	0.001	mg/L	-	-	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	-	-	< 0.001
Naphthalene	0.001	mg/L	-	-	< 0.001
Phenanthrene	0.001	mg/L	-	-	< 0.001
Pyrene	0.001	mg/L	-	-	< 0.001
Total PAH*	0.001	mg/L	-	-	< 0.001
2-Fluorobiphenyl (surr.)	1	%	-	-	77
p-Terphenyl-d14 (surr.)	1	%	-	-	109
Organochlorine Pesticides					
Chlordanes - Total	0.002	mg/L	-	-	< 0.002
4.4'-DDD	0.0001	mg/L	-	-	< 0.0001
4.4'-DDE	0.0001	mg/L	-	-	< 0.0001
4.4'-DDT	0.0001	mg/L	-	-	< 0.0001
a-BHC	0.0001	mg/L	-	-	< 0.0001
Aldrin	0.0001	mg/L	-	-	< 0.0001
b-BHC	0.0001	mg/L	-	-	< 0.0001
d-BHC	0.0001	mg/L	-	-	< 0.0001
Dieldrin	0.0001	mg/L	-	-	< 0.0001
Endosulfan I	0.0001	mg/L	-	-	< 0.0001
Endosulfan II	0.0001	mg/L	-	-	< 0.0001
Endosulfan sulphate	0.0001	mg/L	-	-	< 0.0001
Endrin	0.0001	mg/L	-	-	< 0.0001
Endrin aldehyde	0.0001	mg/L	-	-	< 0.0001
Endrin ketone	0.0001	mg/L	-	-	< 0.0001
g-BHC (Lindane)	0.0001	mg/L	-	-	< 0.0001
Heptachlor	0.0001	mg/L	-	-	< 0.0001
Heptachlor epoxide	0.0001	mg/L	-	-	< 0.0001
Hexachlorobenzene	0.0001	mg/L	-	-	< 0.0001
Methoxychlor	0.0002	mg/L	-	-	< 0.0002
Toxaphene	0.001	mg/L	-	-	< 0.001
Aldrin and Dieldrin (Total)*	0.0002	mg/L	-	-	< 0.0002
DDT + DDE + DDD (Total)*	0.0002	mg/L	-	-	< 0.0002
Vic EPA IWRG 621 OCP (Total)*	0.002	mg/L	-	-	< 0.002
Vic EPA IWRG 621 Other OCP (Total)*	0.002	mg/L	-	-	< 0.002
Dibutylchlorendate (surr.)	1	%	-	-	142
Tetrachloro-m-xylene (surr.)	1	%	-	-	94
Polychlorinated Biphenyls					
Aroclor-1016	0.005	mg/L	-	-	< 0.005
Aroclor-1221	0.001	mg/L	-	-	< 0.001
Aroclor-1232	0.005	mg/L	-	-	< 0.005
Aroclor-1242	0.005	mg/L	-	-	< 0.005
Aroclor-1248	0.005	mg/L	-	-	< 0.005

Client Sample ID			TRIP SPIKE	TRIP BLANK	RINSATE
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S20-De07287	S20-De07288	S20-De07289
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit			
Polychlorinated Biphenyls					
Aroclor-1254	0.005	mg/L	-	-	< 0.005
Aroclor-1260	0.005	mg/L	-	-	< 0.005
Total PCB*	0.001	mg/L	-	-	< 0.001
Dibutylchlorendate (surr.)	1	%	-	-	142
Tetrachloro-m-xylene (surr.)	1	%	-	-	94
Heavy Metals					
Arsenic (filtered)	0.001	mg/L	-	-	< 0.001
Cadmium (filtered)	0.0002	mg/L	-	-	< 0.0002
Chromium (filtered)	0.001	mg/L	-	-	< 0.001
Copper (filtered)	0.001	mg/L	-	-	< 0.001
Lead (filtered)	0.001	mg/L	-	-	< 0.001
Mercury (filtered)	0.0001	mg/L	-	-	< 0.0001
Nickel (filtered)	0.001	mg/L	-	-	< 0.001
Zinc (filtered)	0.005	mg/L	-	-	< 0.005

Sample History

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

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
Polycyclic Aromatic Hydrocarbons	Sydney	Dec 03, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8 filtered	Sydney	Dec 03, 2020	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Eurofins Suite B1			
BTEX	Sydney	Dec 03, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Sydney	Dec 03, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Dec 03, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Dec 03, 2020	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Organochlorine Pesticides	Sydney	Dec 03, 2020	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Dec 03, 2020	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			

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Project Name: BLACKWATTLE BAY
Project ID: 60081

Order No.:
Report #: 761093
Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 9, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
1	SFM01 0.0-0.1	Nov 30, 2020		Sediment	S20-De07241			X		X	X						X	X	
2	SFM01 0.5-0.6	Nov 30, 2020		Sediment	S20-De07242		X												
3	SFM01 1.0-1.1	Nov 30, 2020		Sediment	S20-De07243			X	X	X	X			X	X	X	X	X	
4	SFM01 0-1	Nov 30, 2020		Sediment	S20-De07244	X													
5	SFM02 0.0-0.1	Nov 30, 2020		Sediment	S20-De07245			X		X	X			X		X	X	X	
6	SFM02 0.4-0.5	Nov 30, 2020		Sediment	S20-De07246		X												
7	SFM02 0-0.5	Nov 30, 2020		Sediment	S20-De07247	X													
8	SFM03 0.0-0.1	Nov 30, 2020		Sediment	S20-De07248			X		X	X			X		X	X	X	
9	SFM03 0.5-0.6	Nov 30, 2020		Sediment	S20-De07249		X												

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Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
10	SFM03 0-0.6	Nov 30, 2020		Sediment	S20-De07250	X													
11	SFM04 0.0-0.1	Nov 30, 2020		Sediment	S20-De07251			X	X	X	X			X	X	X	X	X	
12	SFM04 0.4-0.5	Nov 30, 2020		Sediment	S20-De07252		X												
13	SFM04 0-0.4	Nov 30, 2020		Sediment	S20-De07253	X													
14	SFM05 0.0-0.1	Nov 30, 2020		Sediment	S20-De07254			X		X	X						X	X	
15	SFM05 0.5-0.6	Nov 30, 2020		Sediment	S20-De07255		X												
16	SFM05 1.0-1.1	Nov 30, 2020		Sediment	S20-De07256			X		X	X			X	X	X	X	X	
17	SFM05 0-1	Nov 30, 2020		Sediment	S20-De07257	X													
18	SFM06 0.0-0.1	Nov 30, 2020		Sediment	S20-De07258			X	X	X	X			X	X		X	X	
19	SFM06 0.5-0.6	Nov 30, 2020		Sediment	S20-De07259											X	X		
20	SFM06 0-1	Nov 30, 2020		Sediment	S20-De07260	X													

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Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
21	SFM07 0.0-0.1	Nov 30, 2020		Sediment	S20-De07261			X		X	X			X			X	X	
22	SFM07 0.5-0.6	Nov 30, 2020		Sediment	S20-De07262		X												
23	SFM07 1.0-1.1	Nov 30, 2020		Sediment	S20-De07263											X	X		
24	SFM07 1.5-1.6	Nov 30, 2020		Sediment	S20-De07264			X	X	X	X			X	X		X	X	
25	SFM08 0.0-0.1	Nov 30, 2020		Sediment	S20-De07265		X												
26	SFM09 0.0-0.1	Nov 30, 2020		Sediment	S20-De07266			X		X	X			X		X	X	X	
27	SFM09 0.5-0.6	Nov 30, 2020		Sediment	S20-De07267		X												
28	SFM09 0.0-0.6	Nov 30, 2020		Sediment	S20-De07268	X													
29	SFM10 0.0-0.1	Nov 30, 2020		Sediment	S20-De07269			X		X	X			X		X	X	X	
30	SFM10 0.5-0.6	Nov 30, 2020		Sediment	S20-De07270			X		X	X						X		
31	SFM10 0.0-0.6	Nov 30, 2020		Sediment	S20-De07271	X													

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Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
32	SFM11 0.0-0.1	Nov 30, 2020		Sediment	S20-De07272			X	X	X	X			X	X		X	X	
33	SFM11 0.5-0.6	Nov 30, 2020		Sediment	S20-De07273											X	X		
34	SFM11 1.0-1.1	Nov 30, 2020		Sediment	S20-De07274			X		X	X			X			X	X	
35	SFM11 0.0-1.0	Nov 30, 2020		Sediment	S20-De07275	X													
36	SFM12 0.0-0.1	Nov 30, 2020		Sediment	S20-De07276			X		X	X			X		X	X	X	
37	SFM12 0.5-0.6	Nov 30, 2020		Sediment	S20-De07277			X		X	X						X		
38	SFM12 0.0-0.6	Nov 30, 2020		Sediment	S20-De07278	X													
39	SFM13 0.0-0.1	Nov 30, 2020		Sediment	S20-De07279			X	X	X	X			X	X		X	X	
40	SFM13 0.5-0.6	Nov 30, 2020		Sediment	S20-De07280		X												
41	SFM13 1.0-1.1	Nov 30, 2020		Sediment	S20-De07281			X		X	X			X		X	X	X	
42	SFM13 1.5-1.6	Nov 30, 2020		Sediment	S20-De07282		X												

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Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
43	SFM13 2.0-2.1	Nov 30, 2020		Sediment	S20-De07283			X		X	X			X		X	X	X	
44	QC01	Nov 30, 2020		Sediment	S20-De07284				X	X	X			X	X		X	X	
45	QC02	Nov 30, 2020		Sediment	S20-De07285					X	X						X		
46	AS_QC01	Nov 30, 2020		Sediment	S20-De07286	X													
47	TRIP SPIKE	Nov 30, 2020		Water	S20-De07287														X
48	TRIP BLANK	Nov 30, 2020		Water	S20-De07288								X						
49	RINSATE	Nov 30, 2020		Water	S20-De07289					X		X		X				X	
50	SFM07 0-1	Nov 30, 2020		Sediment	S20-De07290	X													
51	SFM07 1-1.6	Nov 30, 2020		Sediment	S20-De07291	X													
52	SFM13 0-1	Nov 30, 2020		Sediment	S20-De07292	X													
53	SFM13 1-2	Nov 30, 2020		Sediment	S20-De07293	X													

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Melbourne Laboratory - NATA Site # 1254 & 14271								X											
Sydney Laboratory - NATA Site # 18217						X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																X			
Perth Laboratory - NATA Site # 23736																			
Mayfield Laboratory																			
External Laboratory									X										
54	SFM06 1.0-1.1	Nov 30, 2020		Sediment	S20-De07459		X												
Test Counts						15	11	20	7	23	22	1	1	18	8	13	25	20	1

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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							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total*	mg/L	< 0.003			0.003	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 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							
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							
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	< 0.002			0.002	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	< 0.0002			0.0002	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/L	< 0.005			0.005	Pass	
Aroclor-1221	mg/L	< 0.001			0.001	Pass	
Aroclor-1232	mg/L	< 0.005			0.005	Pass	
Aroclor-1242	mg/L	< 0.005			0.005	Pass	
Aroclor-1248	mg/L	< 0.005			0.005	Pass	
Aroclor-1254	mg/L	< 0.005			0.005	Pass	
Aroclor-1260	mg/L	< 0.005			0.005	Pass	
Total PCB*	mg/L	< 0.001			0.001	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	94			70-130	Pass	
Toluene	%	101			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	103			70-130	Pass	
o-Xylene	%	103			70-130	Pass	
Xylenes - Total*	%	103			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	96			70-130	Pass	
TRH C10-C14	%	125			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	102			70-130	Pass	
TRH C6-C10	%	96			70-130	Pass	
TRH >C10-C16	%	114			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	77			70-130	Pass	
Acenaphthylene	%	85			70-130	Pass	
Anthracene	%	87			70-130	Pass	
Benz(a)anthracene	%	85			70-130	Pass	
Benzo(a)pyrene	%	86			70-130	Pass	
Benzo(b&j)fluoranthene	%	86			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Benzo(g.h.i)perylene	%	72			70-130	Pass	
Benzo(k)fluoranthene	%	97			70-130	Pass	
Chrysene	%	85			70-130	Pass	
Dibenz(a.h)anthracene	%	78			70-130	Pass	
Fluoranthene	%	89			70-130	Pass	
Fluorene	%	86			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	76			70-130	Pass	
Naphthalene	%	78			70-130	Pass	
Phenanthrene	%	86			70-130	Pass	
Pyrene	%	90			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	95			70-130	Pass	
4.4'-DDD	%	97			70-130	Pass	
4.4'-DDE	%	103			70-130	Pass	
4.4'-DDT	%	108			70-130	Pass	
Aldrin	%	94			70-130	Pass	
b-BHC	%	93			70-130	Pass	
d-BHC	%	97			70-130	Pass	
Dieldrin	%	97			70-130	Pass	
Endosulfan I	%	89			70-130	Pass	
Endosulfan II	%	95			70-130	Pass	
Endosulfan sulphate	%	92			70-130	Pass	
Endrin	%	119			70-130	Pass	
Endrin ketone	%	97			70-130	Pass	
g-BHC (Lindane)	%	92			70-130	Pass	
Heptachlor	%	109			70-130	Pass	
Heptachlor epoxide	%	98			70-130	Pass	
Hexachlorobenzene	%	93			70-130	Pass	
Methoxychlor	%	117			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1016	%	90			70-130	Pass	
Aroclor-1260	%	114			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	99			80-120	Pass	
Cadmium (filtered)	%	101			80-120	Pass	
Chromium (filtered)	%	99			80-120	Pass	
Copper (filtered)	%	99			80-120	Pass	
Lead (filtered)	%	102			80-120	Pass	
Mercury (filtered)	%	102			80-120	Pass	
Nickel (filtered)	%	101			80-120	Pass	
Zinc (filtered)	%	101			80-120	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 C10-C14	S20-De12528	NCP	%	58			70-130	Fail	Q08
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	S20-De12528	NCP	%	51			70-130	Fail	Q08
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S20-De06292	NCP	%	114			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium (filtered)	S20-De06292	NCP	%	97			75-125	Pass	
Chromium (filtered)	S20-De06292	NCP	%	90			75-125	Pass	
Copper (filtered)	S20-De06292	NCP	%	82			75-125	Pass	
Lead (filtered)	S20-De06292	NCP	%	86			75-125	Pass	
Mercury (filtered)	S20-De06292	NCP	%	86			75-125	Pass	
Nickel (filtered)	S20-De13298	NCP	%	89			75-125	Pass	
Zinc (filtered)	S20-De13298	NCP	%	90			75-125	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 C10-C14	S20-De09330	NCP	mg/L	2.6	2.1	19	30%	Pass	
TRH C15-C28	S20-De09330	NCP	mg/L	0.6	0.5	13	30%	Pass	
TRH C29-C36	S20-De09330	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	S20-De09330	NCP	mg/L	2.9	2.4	19	30%	Pass	
TRH >C16-C34	S20-De09330	NCP	mg/L	0.3	0.3	13	30%	Pass	
TRH >C34-C40	S20-De09330	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	S20-De06806	NCP	mg/L	0.001	< 0.001	49	30%	Fail	Q15
Cadmium (filtered)	S20-De06806	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	S20-De06806	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Copper (filtered)	S20-De06806	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Lead (filtered)	S20-De06806	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Mercury (filtered)	S20-De06806	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S20-De06806	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Zinc (filtered)	S20-De06806	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Comments

TBT analysed by NMI, NATA accreditation number 198, report reference RN1297570.

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
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
John Nguyen	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.

Certificate of Analysis

Environment Testing

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.

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

Attention:	Chris Bielby
Report	761093-AID
Project Name	BLACKWATTLE BAY
Project ID	60081
Received Date	Dec 03, 2020
Date Reported	Dec 17, 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 BLACKWATTLE BAY
Project ID 60081
Date Sampled Nov 30, 2020
Report 761093-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
SFM01 0-1	20-De07244	Nov 30, 2020	Approximate Sample 284g Sample consisted of: Brown fine-grained clayey soil and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0016g* Estimated asbestos content in AF = 0.0016g* Total estimated asbestos concentration in AF = 0.00056% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
SFM02 0-0.5	20-De07247	Nov 30, 2020	Approximate Sample 299g Sample consisted of: Brown fine-grained soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
SFM03 0-0.6	20-De07250	Nov 30, 2020	Approximate Sample 506g Sample consisted of: Brown fine-grained sandy soil, glass, bitumen, rocks and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.
SFM04 0-0.4	20-De07253	Nov 30, 2020	Approximate Sample 251g Sample consisted of: Brown fine-grained soil, glass, bitumen and rocks	AF: Chrysotile asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.00060g* Estimated asbestos content in AF = 0.00060g* Total estimated asbestos concentration in AF = 0.00024% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
SFM05 0-1	20-De07257	Nov 30, 2020	Approximate Sample 293g Sample consisted of: Brown fine-grained soil, coal, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.
SFM06 0-1	20-De07260	Nov 30, 2020	Approximate Sample 378g Sample consisted of: Brown coarse-grained soil, coal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
SFM09 0.0-0.6	20-De07268	Nov 30, 2020	Approximate Sample 139g Sample consisted of: Brown fine-grained soil, glass, rocks and debris	No asbestos detected at the reporting limit of 0.01% w/w. Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.
SFM10 0.0-0.6	20-De07271	Nov 30, 2020	Approximate Sample 266g Sample consisted of: Brown fine-grained soil, coal, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
SFM11 0.0-1.0	20-De07275	Nov 30, 2020	Approximate Sample 327g Sample consisted of: Brown fine-grained clayey soil, coal, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
SFM12 0.0-0.6	20-De07278	Nov 30, 2020	Approximate Sample 252g Sample consisted of: Brown fine-grained soil, coal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
AS_QC01	20-De07286	Nov 30, 2020	Approximate Sample 396g Sample consisted of: Brown fine-grained soil, cement, bitumen, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
SFM07 0-1	20-De07290	Nov 30, 2020	Approximate Sample 287g Sample consisted of: Brown fine-grained soil, coal, glass and rocks	AF: Amosite asbestos detected in the form of loose fibre bundles. Approximate raw weight of AF = 0.0016g* Estimated asbestos content in AF = 0.0016g* Total estimated asbestos concentration in AF = 0.00056% w/w* No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
SFM07 1-1.6	20-De07291	Nov 30, 2020	Approximate Sample 184g Sample consisted of: Brown fine-grained soil, coal, rocks and debris	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.
SFM13 0-1	20-De07292	Nov 30, 2020	Approximate Sample 252g Sample consisted of: Brown fine-grained clayey soil, bitumen, rocks and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
SFM13 1-2	20-De07293	Nov 30, 2020	Approximate Sample 257g Sample consisted of: Brown fine-grained clayey soil, rocks and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Dec 09, 2020	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Dec 09, 2020	Indefinite

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Address: Level 1, 50 Margaret St
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Project Name: BLACKWATTLE BAY
Project ID: 60081

Order No.:
Report #: 761093
Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 10, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271									X											
Sydney Laboratory - NATA Site # 18217						X	X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																	X			
Perth Laboratory - NATA Site # 23736																				
Mayfield Laboratory																				
External Laboratory										X										
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**															
1	SFM01 0.0-0.1	Nov 30, 2020		Sediment	S20-De07241				X		X	X						X	X	
2	SFM01 0.5-0.6	Nov 30, 2020		Sediment	S20-De07242			X												
3	SFM01 1.0-1.1	Nov 30, 2020		Sediment	S20-De07243				X	X	X	X			X	X	X	X	X	
4	SFM01 0-1	Nov 30, 2020		Sediment	S20-De07244		X													
5	SFM02 0.0-0.1	Nov 30, 2020		Sediment	S20-De07245				X		X	X			X		X	X	X	
6	SFM02 0.4-0.5	Nov 30, 2020		Sediment	S20-De07246			X												
7	SFM02 0-0.5	Nov 30, 2020		Sediment	S20-De07247		X													
8	SFM03 0.0-0.1	Nov 30, 2020		Sediment	S20-De07248				X		X	X			X		X	X	X	
9	SFM03 0.5-0.6	Nov 30, 2020		Sediment	S20-De07249			X												

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NSW 2000

Project Name: BLACKWATTLE BAY
Project ID: 60081

Order No.:
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Phone: 02 8245 0300
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Received: Dec 3, 2020 9:46 AM
Due: Dec 10, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271									X											
Sydney Laboratory - NATA Site # 18217						X	X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																	X			
Perth Laboratory - NATA Site # 23736																				
Mayfield Laboratory																				
External Laboratory										X										
10	SFM03 0-0.6	Nov 30, 2020		Sediment	S20-De07250		X													
11	SFM04 0.0-0.1	Nov 30, 2020		Sediment	S20-De07251				X	X	X	X			X	X	X	X	X	
12	SFM04 0.4-0.5	Nov 30, 2020		Sediment	S20-De07252			X												
13	SFM04 0-0.4	Nov 30, 2020		Sediment	S20-De07253		X													
14	SFM05 0.0-0.1	Nov 30, 2020		Sediment	S20-De07254				X		X	X						X	X	
15	SFM05 0.5-0.6	Nov 30, 2020		Sediment	S20-De07255			X												
16	SFM05 1.0-1.1	Nov 30, 2020		Sediment	S20-De07256				X		X	X			X	X	X	X	X	
17	SFM05 0-1	Nov 30, 2020		Sediment	S20-De07257		X													
18	SFM06 0.0-0.1	Nov 30, 2020		Sediment	S20-De07258				X	X	X	X			X	X		X	X	
19	SFM06 0.5-0.6	Nov 30, 2020		Sediment	S20-De07259												X	X		
20	SFM06 0-1	Nov 30, 2020		Sediment	S20-De07260		X													

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Phone : 0800 856 450
IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: BLACKWATTLE BAY
Project ID: 60081

Order No.:
Report #: 761093
Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 10, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271									X											
Sydney Laboratory - NATA Site # 18217						X	X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																	X			
Perth Laboratory - NATA Site # 23736																				
Mayfield Laboratory																				
External Laboratory										X										
21	SFM07 0.0-0.1	Nov 30, 2020		Sediment	S20-De07261				X		X	X			X			X	X	
22	SFM07 0.5-0.6	Nov 30, 2020		Sediment	S20-De07262			X												
23	SFM07 1.0-1.1	Nov 30, 2020		Sediment	S20-De07263												X	X		
24	SFM07 1.5-1.6	Nov 30, 2020		Sediment	S20-De07264				X	X	X	X			X	X		X	X	
25	SFM08 0.0-0.1	Nov 30, 2020		Sediment	S20-De07265			X												
26	SFM09 0.0-0.1	Nov 30, 2020		Sediment	S20-De07266				X		X	X			X		X	X	X	
27	SFM09 0.5-0.6	Nov 30, 2020		Sediment	S20-De07267			X												
28	SFM09 0.0-0.6	Nov 30, 2020		Sediment	S20-De07268	X														
29	SFM10 0.0-0.1	Nov 30, 2020		Sediment	S20-De07269				X		X	X			X		X	X	X	
30	SFM10 0.5-0.6	Nov 30, 2020		Sediment	S20-De07270				X		X	X						X		
31	SFM10 0.0-0.6	Nov 30, 2020		Sediment	S20-De07271		X													

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Project ID: 60081

Order No.:
Report #: 761093
Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 10, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271									X											
Sydney Laboratory - NATA Site # 18217						X	X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																	X			
Perth Laboratory - NATA Site # 23736																				
Mayfield Laboratory																				
External Laboratory										X										
32	SFM11 0.0-0.1	Nov 30, 2020		Sediment	S20-De07272				X	X	X	X			X	X		X	X	
33	SFM11 0.5-0.6	Nov 30, 2020		Sediment	S20-De07273												X	X		
34	SFM11 1.0-1.1	Nov 30, 2020		Sediment	S20-De07274				X		X	X			X			X	X	
35	SFM11 0.0-1.0	Nov 30, 2020		Sediment	S20-De07275		X													
36	SFM12 0.0-0.1	Nov 30, 2020		Sediment	S20-De07276				X		X	X			X		X	X	X	
37	SFM12 0.5-0.6	Nov 30, 2020		Sediment	S20-De07277				X		X	X						X		
38	SFM12 0.0-0.6	Nov 30, 2020		Sediment	S20-De07278		X													
39	SFM13 0.0-0.1	Nov 30, 2020		Sediment	S20-De07279				X	X	X	X			X	X		X	X	
40	SFM13 0.5-0.6	Nov 30, 2020		Sediment	S20-De07280			X												
41	SFM13 1.0-1.1	Nov 30, 2020		Sediment	S20-De07281				X		X	X			X		X	X	X	
42	SFM13 1.5-1.6	Nov 30, 2020		Sediment	S20-De07282			X												

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Phone: 02 8245 0300
Fax:

Received: Dec 3, 2020 9:46 AM
Due: Dec 10, 2020
Priority: 5 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines	HOLD	Total Organic Carbon	Tributyltin (TBT)	Polycyclic Aromatic Hydrocarbons	Metals M8	Metals M8 filtered	BTEX	Suite B13: OCP/PCB	Volatile Organics	SPOCAS Suite	Moisture Set	Eurofins Suite B1	BTEX
Melbourne Laboratory - NATA Site # 1254 & 14271									X											
Sydney Laboratory - NATA Site # 18217						X	X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																	X			
Perth Laboratory - NATA Site # 23736																				
Mayfield Laboratory																				
External Laboratory										X										
43	SFM13 2.0-2.1	Nov 30, 2020		Sediment	S20-De07283				X		X	X			X		X	X	X	
44	QC01	Nov 30, 2020		Sediment	S20-De07284					X	X	X			X	X		X	X	
45	QC02	Nov 30, 2020		Sediment	S20-De07285						X	X						X		
46	AS_QC01	Nov 30, 2020		Sediment	S20-De07286		X													
47	TRIP SPIKE	Nov 30, 2020		Water	S20-De07287															X
48	TRIP BLANK	Nov 30, 2020		Water	S20-De07288									X						
49	RINSATE	Nov 30, 2020		Water	S20-De07289						X		X		X				X	
50	SFM07 0-1	Nov 30, 2020		Sediment	S20-De07290		X													
51	SFM07 1-1.6	Nov 30, 2020		Sediment	S20-De07291	X														
52	SFM13 0-1	Nov 30, 2020		Sediment	S20-De07292		X													
53	SFM13 1-2	Nov 30, 2020		Sediment	S20-De07293		X													

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Melbourne Laboratory - NATA Site # 1254 & 14271									X											
Sydney Laboratory - NATA Site # 18217						X	X	X			X	X	X	X	X	X		X	X	X
Brisbane Laboratory - NATA Site # 20794																	X			
Perth Laboratory - NATA Site # 23736																				
Mayfield Laboratory																				
External Laboratory										X										
54	SFM06 1.0-1.1	Nov 30, 2020		Sediment	S20-De07459			X												
Test Counts						2	13	11	20	7	23	22	1	1	18	8	13	25	20	1

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

TBT analysed by NMI, NATA accreditation number 198, report reference RN1297570.

S20-De07244, S20-De07247, S20-De07253 to S20-De07260, S20-De07271 to S20-De07290, S20-De07292 & S20-De07293: Samples received were less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Chamath JHM Annakkage	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.

REPORT OF ANALYSIS

Client	: EUROFINS MGT	**Job No.**	: EURO26/201203/1
	6 Monterey Road	**Quote No.**	: QT-02018
	Dandenong South VIC 3175	**Order No.**	: 20-434-1083-761093
		Date Received	: 03-DEC-2020
Attention	: MARY MAKARIOS	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/029452	S20-De07243	SOIL SFM01 1.0-1.1 30/1/20
N20/029453	S20-De07251	SOIL SFM04 0.0-0.1 30/1/20
N20/029454	S20-De07258	SOIL SFM06 0.0-0.1 30/1/20
N20/029455	S20-De07264	SOIL SFM07 1.5-1.6 30/1/20

Lab Reg No.	Units	N20/029452	N20/029453	N20/029454	N20/029455	Method
Date Sampled		30-NOV-2020	30-NOV-2020	30-NOV-2020	30-NOV-2020	
Sample Reference		S20-De07243	S20-De07251	S20-De07258	S20-De07264	
Organotins						
Monobutyltin as Sn	ng/g	<0.5	0.74	3.6	<0.5	NR_35
Dibutyltin as Sn	ng/g	<0.5	26	89	<0.5	NR_35
Tributyltin as Sn	ng/g	<0.5	11	11	<0.5	NR_35
Surrogate: Tripropyltin	%REC	87	67	92	72	NR_35
Dates						
Date extracted		9-DEC-2020	9-DEC-2020	9-DEC-2020	9-DEC-2020	
Date analysed		10-DEC-2020	10-DEC-2020	10-DEC-2020	10-DEC-2020	

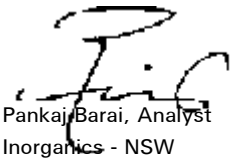
Luke Baker, Analyst
Organics - NSW
Accreditation No. 198

14-DEC-2020

Lab Reg No.	Units	N20/029452	N20/029453	N20/029454	N20/029455	Method
Date Sampled		30-NOV-2020	30-NOV-2020	30-NOV-2020	30-NOV-2020	
Sample Reference		S20-De07243	S20-De07251	S20-De07258	S20-De07264	
Trace Elements						
Total Solids	%	46.1	56.4	77.2	46.4	NT2_49
Dates						
Date extracted		9-DEC-2020	9-DEC-2020	9-DEC-2020	9-DEC-2020	
Date analysed		10-DEC-2020	10-DEC-2020	10-DEC-2020	10-DEC-2020	

REPORT OF ANALYSIS

Lab Reg No.		N20/029452	N20/029453	N20/029454	N20/029455	
Date Sampled		30-NOV-2020	30-NOV-2020	30-NOV-2020	30-NOV-2020	
Sample Reference		S20-De07243	S20-De07251	S20-De07258	S20-De07264	
	Units					Method



Pankaj Barai, Analyst
Inorganics - NSW
Accreditation No. 198

14-DEC-2020

REPORT OF ANALYSIS

Client	: EUROFINS MGT	**Job No.**	: EURO26/201203/1
	6 Monterey Road	**Quote No.**	: QT-02018
	Dandenong South VIC 3175	**Order No.**	: 20-434-1083-761093
		Date Received	: 03-DEC-2020
Attention	: MARY MAKARIOS	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/029456	S20-De07272	SOIL SFM11 0.0-0.1 30/1/20
N20/029457	S20-De07279	SOIL SFM13 0.0-0.1 30/1/20
N20/029458	S20-De07284	SOIL QC01 30/1/20

Lab Reg No.	Units	N20/029456	N20/029457	N20/029458		Method
Date Sampled		30-NOV-2020	30-NOV-2020	30-NOV-2020		
Sample Reference		S20-De07272	S20-De07279	S20-De07284		
Organotins						
Monobutyltin as Sn	ng/g	3.2	1.5	1.2		NR_35
Dibutyltin as Sn	ng/g	52	17	2.3		NR_35
Tributyltin as Sn	ng/g	93	42	6.1		NR_35
Surrogate: Tripropyltin	%REC	100	107	74		NR_35
Dates						
Date extracted		9-DEC-2020	9-DEC-2020	9-DEC-2020		
Date analysed		10-DEC-2020	10-DEC-2020	10-DEC-2020		

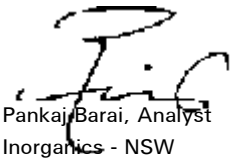
Luke Baker, Analyst
Organics - NSW
Accreditation No. 198

14-DEC-2020

Lab Reg No.	Units	N20/029456	N20/029457	N20/029458		Method
Date Sampled		30-NOV-2020	30-NOV-2020	30-NOV-2020		
Sample Reference		S20-De07272	S20-De07279	S20-De07284		
Trace Elements						
Total Solids	%	62.5	44.6	39.9		NT2_49
Dates						
Date extracted		9-DEC-2020	9-DEC-2020	9-DEC-2020		
Date analysed		10-DEC-2020	10-DEC-2020	10-DEC-2020		

REPORT OF ANALYSIS

Lab Reg No.		N20/029456	N20/029457	N20/029458		
Date Sampled		30-NOV-2020	30-NOV-2020	30-NOV-2020		
Sample Reference		S20-De07272	S20-De07279	S20-De07284		
	Units					Method



Pankaj Barai, Analyst
Inorganics - NSW
Accreditation No. 198

14-DEC-2020

All results are expressed on a dry weight basis.

NATA
ACCREDITED FOR
TECHNICAL
COMPETENCE

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1297219* *RN1297556*

Measurement Uncertainty is available upon request.
Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113

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Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

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

Sample Receipt Advice

Company name:	JBS & G Australia (NSW) P/L
Contact name:	Chris Bielby
Project name:	BLACKWATTLE BAY
Project ID:	60081
Turnaround time:	5 Day
Date/Time received	Dec 3, 2020 9:46 AM
Eurofins reference	761093

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 : 5.4 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 SFM06 1.0-1.1 (Jar, ASS bag) received extra, placed on hold. QC01A (Jar), QC02A (Jar) and AS_QC01A (Bag) forwarded to Envirolab. No ASS bag received for SFM08 0.0-0.1. No jar or ASS bag received for SFM09 0.0-0.6.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Ursula Long on phone : or by email: UrsulaLong@eurofins.com

Results will be delivered electronically via email to Chris Bielby - cbielby@jbsg.com.au.

1 of 3

CHAIN OF CUSTODY

22305

JBS&G

PROJECT NO.: 60081
PROJECT NAME: BLACKWATTLE BAY
DATE NEEDED BY: Standard

LABORATORY BATCH NO.:
SAMPLERS: CB
QC LEVEL: NEPM (2013)

PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688

SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) .....@jbsg.com.au; (3) .....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	TOC	Heavy metals	PAHs	TPH/BTEX	OCP/PCBs	VOCs	TBT	Speciation	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/NA	NOTES:
SFM01 0-0.0.1	SEDIMENT	30/11/20		JAR + BAGS + ICE		/	/	/								Samples scheduled for Speciation analysis are frozen.
SFM01 0.5-0.6																
SFM01 1.0-1.1						/	/	/	/	/	/	/				
SFM01 0-1													/			
SFM02 0-0-0.1						/	/	/	/			/				
SFM02 0.4-0.5																
SFM02 0-0.5													/			
SFM03 0.0-0.1						/	/	/	/			/				
SFM03 0.5-0.6																
SFM03 0-0.6													/			
SFM04 0-0-0.1						/	/	/	/	/	/	/				
SFM04 0.4-0.5																
SFM04 0-0.4													/			
SFM05 0.00.1						/	/	/								
SFM05 0.5-0.6																
SFM05 1.0-1.1						/	/	/	/	/	/	/				
SFM05 0-1													/			
SFM06 0-0-0.1						/	/	/	/	/	/	/				
SFM06 0.5-0.6													/			

RELINQUISHED BY:
NAME: C Bielby DATE: 1/12/20
OF: JBS&G
NAME: DATE:
OF:

METHOD OF SHIPMENT:
CONSIGNMENT NOTE NO.
TRANSPORT CO.
CONSIGNMENT NOTE NO.
TRANSPORT CO

RECEIVED BY:
NAME: Kathy N
DATE: 3/12
OF:
NAME:
OF:

FOR RECEIVING LAB USE ONLY:
COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
COOLER TEMP ..... deg C
COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO Forms013 – Chain of Custody - Generic

761093

2 of 3

CHAIN OF CUSTODY

22306

JBS&G

PROJECT NO.. 60081
PROJECT NAME: BLACKWATTLE BAY
DATE NEEDED BY: Standard
PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688

LABORATORY BATCH NO.:
SAMPLERS: CB
QC LEVEL: NEPM (2013)

SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) .....@jbsg.com.au; (3) .....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	TOC	Heavy Metals	PAHs	TPH/BTEX	OCP/PCBs	VOCs	TBT	Speciation	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
SFM06 0-1	SEDIMENT	30/11/20		JAR+BAG+ICE												
SFM07 00-0-1																
SFM07 0.5-0.6																
SFM07 1.0-1.1																
SFM07 1.5-1.6																
SFM08 0.0-0.1																
SFM09 0.0-0.1																
SFM09 0.5-0.6																
SFM09 0.0-0.6																
SFM10 0.0-0.1																
SFM10 0.5-0.6																
SFM10 0.0-0.6																
SFM11 0.0-0.1																
SFM11 0.5-0.6																
SFM11 1.0-1.1																
SFM11 0.0-1.0																
SFM12 0.0-0.1																
SFM12 0.5-0.6																
SFM12 0.0-0.6																

RELINQUISHED BY:
NAME: DATE:
OF: JBS&G
NAME: DATE:
OF:

METHOD OF SHIPMENT:
CONSIGNMENT NOTE NO.
TRANSPORT CO.
CONSIGNMENT NOTE NO.
TRANSPORT CO

RECEIVED BY:
NAME:
DATE:
OF:
NAME:
OF:
DATE: 3/12

FOR RECEIVING LAB USE ONLY:
COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
COOLER TEMP ..... deg C
COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO Forms013 – Chain of Custody - Generic

3 of 3.

22307

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 60081
PROJECT NAME: BLACKWATTLE BAY
DATE NEEDED BY: Standard

LABORATORY BATCH NO.:
SAMPLERS: CB
QC LEVEL: NEPM (2013)

PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688

SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) .....@jbsg.com.au; (3) .....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	TOC	Heavy Metals	PAHs	TPH/BTEX	OCP/PCBs	VOCs	TBT	Sieve/BTEX	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
SFM13 0.0-0.1	SEDIMENT	30/11/20		JAR + BAGS + ICE		/	/	/	/	/	/	/				
SFM13 0.5-0.6																
SFM13 1.0-1.1							/	/	/	/		/				
SFM13 1.5-1.6																
SFM13 2.0-2.1							/	/	/	/						
QC01							/	/	/	/						
QC02																
AS QC01															/	
Trip Spike	WATER			VIALS + ICE									/			
Trip Blank													/			
Rinsate							/	/	/							
SFM07 0-1	SEDIMENT	30/11/20		JAR BAGS											/	
SFM07 1-1.6															/	
SFM13 0-1															/	
SFM13 1-2															/	

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: C BIELBY DATE: 1/12/20.	CONSIGNMENT NOTE NO.	NAME:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 3/12	COOLER TEMP ..... deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	OF: NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO FormsO13 – Chain of Custody - Generic

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000

NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Chris Bielby**

Report **763908-S**
Project name ADDITIONAL BLACKWATTLE BAY
Project ID 60081
Received Date Dec 15, 2020

Client Sample ID			**SFM07 1.5-1.6**	**SFM11 1.0-1.1**	**SFM12 0.5-0.6**	**SFM01 1.0-1.1**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S20-De31493**	**S20-De31494**	**S20-De31495**	**S20-De31496**
Date Sampled			**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	-
% Moisture	1	%	49	42	52	57
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	50	mg/kg	-	-	-	< 50
TRH >C16-C34 (after silica gel clean-up)	100	mg/kg	-	-	-	3400
TRH >C34-C40 (after silica gel clean-up)	100	mg/kg	-	-	-	340
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	50	mg/kg	-	-	-	2557
TRH C10-C14 (after silica gel clean-up)	50	mg/kg	-	-	-	67
TRH C15-C28 (after silica gel clean-up)	100	mg/kg	-	-	-	1900
TRH C29-C36 (after silica gel clean-up)	100	mg/kg	-	-	-	590

Client Sample ID			**SFM05 0.0-0.1**	**SFM05 1.0-1.1**	**SFM06 0.0-0.1**	**SFM07 1.5-1.6**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins Sample No.			**S20-De31497**	**S20-De31498**	**S20-De31499**	**S20-De31500**
Date Sampled			**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**
Test/Reference	LOR	Unit				
% Moisture	1	%	54	46	18	50
TRH - 2013 NEPM Fractions (after silica gel clean-up)						
TRH >C10-C16 (after silica gel clean-up)	50	mg/kg	< 50	51	63	480
TRH >C16-C34 (after silica gel clean-up)	100	mg/kg	750	870	560	4300
TRH >C34-C40 (after silica gel clean-up)	100	mg/kg	< 100	140	< 100	510
TRH - 1999 NEPM Fractions (after silica gel clean-up)						
TRH C10-C36 (Total) (after silica gel clean-up)	50	mg/kg	820	980	280	5160
TRH C10-C14 (after silica gel clean-up)	50	mg/kg	< 50	< 50	< 50	260
TRH C15-C28 (after silica gel clean-up)	100	mg/kg	380	470	280	2800
TRH C29-C36 (after silica gel clean-up)	100	mg/kg	440	510	< 100	2100

Client Sample ID			SFM13 1.0-1.1	SFM11 0.0-0.1
Sample Matrix			Soil	Soil
Eurofins Sample No.			S20-De31501	S20-De31502
Date Sampled			Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit		
% Moisture	1	%	41	36
TRH - 2013 NEPM Fractions (after silica gel clean-up)				
TRH >C10-C16 (after silica gel clean-up)	50	mg/kg	< 50	61
TRH >C16-C34 (after silica gel clean-up)	100	mg/kg	1100	1000
TRH >C34-C40 (after silica gel clean-up)	100	mg/kg	< 100	110
TRH - 1999 NEPM Fractions (after silica gel clean-up)				
TRH C10-C36 (Total) (after silica gel clean-up)	50	mg/kg	1130	1150
TRH C10-C14 (after silica gel clean-up)	50	mg/kg	< 50	< 50
TRH C15-C28 (after silica gel clean-up)	100	mg/kg	760	610
TRH C29-C36 (after silica gel clean-up)	100	mg/kg	370	540

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
Chromium (hexavalent)	Sydney	Dec 17, 2020	28 Days
- Method: In-house method E057.2			
% Moisture	Sydney	Dec 15, 2020	14 Days
- Method: LTM-GEN-7080 Moisture			
TRH - 2013 NEPM Fractions (after silica gel clean-up)	Sydney	Dec 17, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
TRH - 1999 NEPM Fractions (after silica gel clean-up)	Sydney	Dec 17, 2020	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
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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
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
2/91 Leach Highway
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Site # 23736

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IANZ # 1290

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: ADDITIONAL BLACKWATTLE BAY
Project ID: 60081

Order No.:
Report #: 763908
Phone: 02 8245 0300
Fax:

Received: Dec 15, 2020 4:31 PM
Due: Dec 18, 2020
Priority: 3 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Chromium (hexavalent)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Metals M8	TRH (after Silica Gel cleanup)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	SFM01 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31475		X	X	X		
2	SFM01 1.0-1.1	Nov 30, 2020		US Leachate	S20-De31476		X	X	X		
3	SFM03 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31477			X	X		
4	SFM04 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31478			X	X		
5	SFM05 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31479			X	X		
6	SFM05 1.0-1.1	Nov 30, 2020		US Leachate	S20-De31480			X	X		
7	SFM06 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31481			X	X		
8	SFM07 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31482			X	X		
9	SFM07 1.5-1.6	Nov 30, 2020		US Leachate	S20-De31483	X	X	X	X		

eurofins | Environment Testing

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Company Name: JBS & G Australia (NSW) P/L
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Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Chromium (hexavalent)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Metals M8	TRH (after Silica Gel cleanup)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
10	SFM09 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31484			X	X		
11	SFM10 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31485			X	X		
12	SFM10 0.5-0.6	Nov 30, 2020		US Leachate	S20-De31486		X	X	X		
13	SFM11 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31487		X	X	X		
14	SFM11 1.0-1.1	Nov 30, 2020		US Leachate	S20-De31488	X	X	X	X		
15	SFM12 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31489		X	X	X		
16	SFM12 0.5-0.6	Nov 30, 2020		US Leachate	S20-De31490	X	X	X	X		
17	SFM13 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31491		X	X	X		
18	SFM13 2.0-2.1	Nov 30, 2020		US Leachate	S20-De31492		X	X	X		
19	SFM07 1.5-1.6	Nov 30, 2020		Soil	S20-De31493	X					X
20	SFM11 1.0-1.1	Nov 30, 2020		Soil	S20-De31494	X					X

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Company Name: JBS & G Australia (NSW) P/L
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Project ID: 60081

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Received: Dec 15, 2020 4:31 PM
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Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Chromium (hexavalent)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Metals M8	TRH (after Silica Gel cleanup)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
21	SFM12 0.5-0.6	Nov 30, 2020		Soil	S20-De31495	X					X
22	SFM01 1.0-1.1	Nov 30, 2020		Soil	S20-De31496					X	X
23	SFM05 0.0-0.1	Nov 30, 2020		Soil	S20-De31497					X	X
24	SFM05 1.0-1.1	Nov 30, 2020		Soil	S20-De31498					X	X
25	SFM06 0.0-0.1	Nov 30, 2020		Soil	S20-De31499					X	X
26	SFM07 1.5-1.6	Nov 30, 2020		Soil	S20-De31500					X	X
27	SFM13 1.0-1.1	Nov 30, 2020		Soil	S20-De31501					X	X
28	SFM11 0.0-0.1	Nov 30, 2020		Soil	S20-De31502					X	X
29	SFM13 1.0-1.1	Nov 30, 2020		US Leachate	S20-De31608		X	X	X		
Test Counts						6	11	19	19	7	10

eurofins | Environment Testing

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							
Chromium (hexavalent)	mg/kg	< 1			1	Pass	
Method Blank							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	mg/kg	< 50			50	Pass	
TRH >C16-C34 (after silica gel clean-up)	mg/kg	< 100			100	Pass	
TRH >C34-C40 (after silica gel clean-up)	mg/kg	< 100			100	Pass	
Method Blank							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	mg/kg	< 50			50	Pass	
TRH C15-C28 (after silica gel clean-up)	mg/kg	< 100			100	Pass	
TRH C29-C36 (after silica gel clean-up)	mg/kg	< 100			100	Pass	
LCS - % Recovery							
Chromium (hexavalent)	%	77			70-130	Pass	
LCS - % Recovery							
TRH - 2013 NEPM Fractions (after silica gel clean-up)							
TRH >C10-C16 (after silica gel clean-up)	%	85			70-130	Pass	
LCS - % Recovery							
TRH - 1999 NEPM Fractions (after silica gel clean-up)							
TRH C10-C14 (after silica gel clean-up)	%	84			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	S20-De31233	NCP	%	11	11	4.0	30%	Pass	
Duplicate									
TRH - 2013 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH >C10-C16 (after silica gel clean-up)	S20-De33331	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34 (after silica gel clean-up)	S20-De33331	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40 (after silica gel clean-up)	S20-De33331	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
TRH - 1999 NEPM Fractions (after silica gel clean-up)				Result 1	Result 2	RPD			
TRH C10-C14 (after silica gel clean-up)	S20-De33331	NCP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C15-C28 (after silica gel clean-up)	S20-De33331	NCP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH C29-C36 (after silica gel clean-up)	S20-De33331	NCP	mg/kg	< 100	< 100	<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

Authorised By

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Charl Du Preez	Senior Analyst-Inorganic (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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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: **Chris Bielby**

Report **763908-L**
Project name ADDITIONAL BLACKWATTLE BAY
Project ID 60081
Received Date Dec 15, 2020

Client Sample ID			**SFM01 0.0-0.1**	**SFM01 1.0-1.1**	**SFM03 0.0-0.1**	**SFM04 0.0-0.1**
Sample Matrix			**US Leachate**	**US Leachate**	**US Leachate**	**US Leachate**
Eurofins Sample No.			**S20-De31475**	**S20-De31476**	**S20-De31477**	**S20-De31478**
Date Sampled			**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**	**Nov 30, 2020**
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	-	-
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Chrysene	0.001	mg/L	< 0.001	< 0.001	-	-
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	-	-
Fluorene	0.001	mg/L	< 0.001	< 0.001	-	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Naphthalene	0.001	mg/L	< 0.001	< 0.001	-	-
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	-	-
Pyrene	0.001	mg/L	< 0.001	< 0.001	-	-
Total PAH*	0.001	mg/L	< 0.001	< 0.001	-	-
2-Fluorobiphenyl (surr.)	1	%	93	73	-	-
p-Terphenyl-d14 (surr.)	1	%	INT	INT	-	-
Heavy Metals						
Arsenic	0.01	mg/L	0.03	0.01	< 0.01	0.02
Cadmium	0.005	mg/L	< 0.005	0.026	< 0.005	0.005
Chromium	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Copper	0.05	mg/L	< 0.05	0.05	< 0.05	< 0.05
Lead	0.01	mg/L	< 0.01	2.7	0.76	1.3
Mercury	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Nickel	0.01	mg/L	0.02	0.10	0.04	0.07
Zinc	0.05	mg/L	0.29	23	4.1	6.5
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.5	8.5	8.1	8.4
pH (off)	0.1	pH Units	6.5	5.5	5.3	5.3
pH (USA HCl addition)	0.1	pH Units	1.7	1.7	1.7	1.7

Client Sample ID			SFM05 0.0-0.1	SFM05 1.0-1.1	SFM06 0.0-0.1	SFM07 0.0-0.1
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			S20-De31479	S20-De31480	S20-De31481	S20-De31482
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	0.01	mg/L	0.02	0.01	< 0.01	< 0.01
Cadmium	0.005	mg/L	0.007	< 0.005	0.006	< 0.005
Chromium	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Copper	0.05	mg/L	0.08	< 0.05	0.07	< 0.05
Lead	0.01	mg/L	0.40	0.42	0.78	< 0.01
Mercury	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Nickel	0.01	mg/L	0.04	0.09	0.03	0.03
Zinc	0.05	mg/L	7.5	6.2	2.9	< 0.05
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.7	8.7	8.2	8.1
pH (off)	0.1	pH Units	5.4	6.2	5.2	6.5
pH (USA HCl addition)	0.1	pH Units	1.7	1.7	1.7	1.9

Client Sample ID			SFM07 1.5-1.6	SFM09 0.0-0.1	SFM10 0.0-0.1	SFM10 0.5-0.6
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			S20-De31483	S20-De31484	S20-De31485	S20-De31486
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	0.001	mg/L	0.002	-	-	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	-	-	< 0.001
Anthracene	0.001	mg/L	< 0.001	-	-	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	-	-	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	-	-	< 0.001
Chrysene	0.001	mg/L	< 0.001	-	-	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	-	-	< 0.001
Fluoranthene	0.001	mg/L	0.001	-	-	0.001
Fluorene	0.001	mg/L	0.002	-	-	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	-	-	< 0.001
Naphthalene	0.001	mg/L	< 0.001	-	-	< 0.001
Phenanthrene	0.001	mg/L	0.005	-	-	0.002
Pyrene	0.001	mg/L	0.001	-	-	0.001
Total PAH*	0.001	mg/L	0.011	-	-	0.004
2-Fluorobiphenyl (surr.)	1	%	65	-	-	87
p-Terphenyl-d14 (surr.)	1	%	96	-	-	146
Heavy Metals						
Arsenic	0.01	mg/L	0.01	0.02	0.01	< 0.01
Cadmium	0.005	mg/L	0.019	< 0.005	0.035	0.035
Chromium	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Copper	0.05	mg/L	< 0.05	< 0.05	0.08	0.08
Lead	0.01	mg/L	1.9	0.05	3.3	2.3
Mercury	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Nickel	0.01	mg/L	0.32	0.02	0.17	0.18
Zinc	0.05	mg/L	28	1.3	21	24

Client Sample ID			SFM07 1.5-1.6	SFM09 0.0-0.1	SFM10 0.0-0.1	SFM10 0.5-0.6
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			S20-De31483	S20-De31484	S20-De31485	S20-De31486
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.5	8.0	8.3	8.3
pH (off)	0.1	pH Units	5.2	5.1	5.4	5.2
pH (USA HCl addition)	0.1	pH Units	1.7	1.6	1.6	1.6
Chromium (hexavalent)	0.005	mg/L	< 0.005	-	-	-

Client Sample ID			SFM11 0.0-0.1	SFM11 1.0-1.1	SFM12 0.0-0.1	SFM12 0.5-0.6
Sample Matrix			US Leachate	US Leachate	US Leachate	US Leachate
Eurofins Sample No.			S20-De31487	S20-De31488	S20-De31489	S20-De31490
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit				
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	0.003	< 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	0.002	< 0.001	0.002
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
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	0.002	< 0.001	0.002
Pyrene	0.001	mg/L	< 0.001	0.002	< 0.001	0.001
Total PAH*	0.001	mg/L	< 0.001	0.014	< 0.001	0.005
2-Fluorobiphenyl (surr.)	1	%	75	58	64	59
p-Terphenyl-d14 (surr.)	1	%	INT	98	149	142
Heavy Metals						
Arsenic	0.01	mg/L	0.01	< 0.01	0.02	< 0.01
Cadmium	0.005	mg/L	0.029	0.030	0.064	0.038
Chromium	0.05	mg/L	< 0.05	< 0.05	< 0.05	< 0.05
Copper	0.05	mg/L	0.06	< 0.05	0.10	< 0.05
Lead	0.01	mg/L	2.5	1.9	3.6	1.8
Mercury	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Nickel	0.01	mg/L	0.10	0.15	0.24	0.38
Zinc	0.05	mg/L	24	16	29	21
USA Leaching Procedure						
Leachate Fluid[C01]		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.6	8.0	8.3	8.6
pH (off)	0.1	pH Units	5.3	5.2	5.3	6.4
pH (USA HCl addition)	0.1	pH Units	1.7	1.6	1.6	1.6
Chromium (hexavalent)	0.005	mg/L	-	< 0.005	-	< 0.005

Client Sample ID			SFM13 0.0-0.1	SFM13 2.0-2.1	SFM13 1.0-1.1
Sample Matrix			US Leachate	US Leachate	US Leachate
Eurofins Sample No.			S20-De31491	S20-De31492	S20-De31608
Date Sampled			Nov 30, 2020	Nov 30, 2020	Nov 30, 2020
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	< 0.001	0.002	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Anthracene	0.001	mg/L	< 0.001	0.001	< 0.001
Benz(a)anthracene	0.001	mg/L	< 0.001	0.001	0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene[N07]	0.001	mg/L	< 0.001	< 0.001	0.001
Benzo(g.h.i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Dibenz(a.h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	0.003	0.001
Fluorene	0.001	mg/L	< 0.001	0.002	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	0.006	< 0.001
Pyrene	0.001	mg/L	< 0.001	0.002	0.002
Total PAH*	0.001	mg/L	< 0.001	0.017	0.005
2-Fluorobiphenyl (surr.)	1	%	53	74	80
p-Terphenyl-d14 (surr.)	1	%	INT	92	100
Heavy Metals					
Arsenic	0.01	mg/L	0.03	< 0.01	0.06
Cadmium	0.005	mg/L	< 0.005	< 0.005	< 0.005
Chromium	0.05	mg/L	< 0.05	< 0.05	< 0.05
Copper	0.05	mg/L	< 0.05	< 0.05	< 0.05
Lead	0.01	mg/L	0.02	0.51	< 0.01
Mercury	0.001	mg/L	< 0.001	< 0.001	< 0.001
Nickel	0.01	mg/L	0.06	0.10	0.03
Zinc	0.05	mg/L	2.1	6.3	0.14
USA Leaching Procedure					
Leachate Fluid[C01]		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	8.6	7.7	8.8
pH (off)	0.1	pH Units	6.4	5.2	6.3
pH (USA HCl addition)	0.1	pH Units	1.7	1.6	1.8

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
Polycyclic Aromatic Hydrocarbons	Sydney	Dec 17, 2020	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Dec 18, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
USA Leaching Procedure	Sydney	Dec 17, 2020	14 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			
Chromium (hexavalent)	Sydney	Dec 17, 2020	28 Days
- Method: In-house method E057.2			

eurofins | Environment Testing

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NATA # 1261 Site # 18217

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

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: ADDITIONAL BLACKWATTLE BAY
Project ID: 60081

Order No.:
Report #: 763908
Phone: 02 8245 0300
Fax:

Received: Dec 15, 2020 4:31 PM
Due: Dec 18, 2020
Priority: 3 Day
Contact Name: Chris Bielby

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Chromium (hexavalent)	Polycyclic Aromatic Hydrocarbons	USA Leaching Procedure	Metals M8	TRH (after Silica Gel cleanup)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271											
Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**						
1	SFM01 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31475		X	X	X		
2	SFM01 1.0-1.1	Nov 30, 2020		US Leachate	S20-De31476		X	X	X		
3	SFM03 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31477			X	X		
4	SFM04 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31478			X	X		
5	SFM05 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31479			X	X		
6	SFM05 1.0-1.1	Nov 30, 2020		US Leachate	S20-De31480			X	X		
7	SFM06 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31481			X	X		
8	SFM07 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31482			X	X		
9	SFM07 1.5-1.6	Nov 30, 2020		US Leachate	S20-De31483	X	X	X	X		

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Melbourne
6 Monterey Road
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Site # 1254 & 14271

Sydney
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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
10	SFM09 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31484			X	X		
11	SFM10 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31485			X	X		
12	SFM10 0.5-0.6	Nov 30, 2020		US Leachate	S20-De31486		X	X	X		
13	SFM11 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31487		X	X	X		
14	SFM11 1.0-1.1	Nov 30, 2020		US Leachate	S20-De31488	X	X	X	X		
15	SFM12 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31489		X	X	X		
16	SFM12 0.5-0.6	Nov 30, 2020		US Leachate	S20-De31490	X	X	X	X		
17	SFM13 0.0-0.1	Nov 30, 2020		US Leachate	S20-De31491		X	X	X		
18	SFM13 2.0-2.1	Nov 30, 2020		US Leachate	S20-De31492		X	X	X		
19	SFM07 1.5-1.6	Nov 30, 2020		Soil	S20-De31493	X					X
20	SFM11 1.0-1.1	Nov 30, 2020		Soil	S20-De31494	X					X

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Sydney Laboratory - NATA Site # 18217						X	X	X	X	X	X
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
Mayfield Laboratory											
External Laboratory											
21	SFM12 0.5-0.6	Nov 30, 2020		Soil	S20-De31495	X					X
22	SFM01 1.0-1.1	Nov 30, 2020		Soil	S20-De31496					X	X
23	SFM05 0.0-0.1	Nov 30, 2020		Soil	S20-De31497					X	X
24	SFM05 1.0-1.1	Nov 30, 2020		Soil	S20-De31498					X	X
25	SFM06 0.0-0.1	Nov 30, 2020		Soil	S20-De31499					X	X
26	SFM07 1.5-1.6	Nov 30, 2020		Soil	S20-De31500					X	X
27	SFM13 1.0-1.1	Nov 30, 2020		Soil	S20-De31501					X	X
28	SFM11 0.0-0.1	Nov 30, 2020		Soil	S20-De31502					X	X
29	SFM13 1.0-1.1	Nov 30, 2020		US Leachate	S20-De31608		X	X	X		
Test Counts						6	11	19	19	7	10

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
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							
Heavy Metals							
Arsenic	mg/L	< 0.01			0.01	Pass	
Cadmium	mg/L	< 0.005			0.005	Pass	
Chromium	mg/L	< 0.05			0.05	Pass	
Copper	mg/L	< 0.05			0.05	Pass	
Lead	mg/L	< 0.01			0.01	Pass	
Mercury	mg/L	< 0.001			0.001	Pass	
Nickel	mg/L	0.01			0.01	Pass	
Zinc	mg/L	< 0.05			0.05	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	76			70-130	Pass	
Acenaphthylene	%	92			70-130	Pass	
Anthracene	%	72			70-130	Pass	
Benz(a)anthracene	%	85			70-130	Pass	
Benzo(a)pyrene	%	80			70-130	Pass	
Benzo(b&j)fluoranthene	%	88			70-130	Pass	
Benzo(g.h.i)perylene	%	90			70-130	Pass	
Benzo(k)fluoranthene	%	72			70-130	Pass	
Chrysene	%	75			70-130	Pass	
Dibenz(a.h)anthracene	%	94			70-130	Pass	
Fluoranthene	%	88			70-130	Pass	
Fluorene	%	71			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	120			70-130	Pass	
Naphthalene	%	92			70-130	Pass	
Phenanthrene	%	73			70-130	Pass	
Pyrene	%	78			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic	%	92			80-120	Pass	
Cadmium	%	93			80-120	Pass	
Chromium	%	86			80-120	Pass	
Copper	%	84			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead			%	93			80-120	Pass	
Mercury			%	102			80-120	Pass	
Nickel			%	87			80-120	Pass	
Zinc			%	87			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S20-De31475	CP	%	84			70-130	Pass	
Acenaphthylene	S20-De31475	CP	%	109			70-130	Pass	
Anthracene	S20-De31475	CP	%	127			70-130	Pass	
Benz(a)anthracene	S20-De31475	CP	%	104			70-130	Pass	
Benzo(a)pyrene	S20-De31475	CP	%	108			70-130	Pass	
Benzo(b&j)fluoranthene	S20-De31475	CP	%	103			70-130	Pass	
Benzo(g.h.i)perylene	S20-De31475	CP	%	109			70-130	Pass	
Benzo(k)fluoranthene	S20-De31475	CP	%	113			70-130	Pass	
Chrysene	S20-De31475	CP	%	94			70-130	Pass	
Dibenz(a.h)anthracene	S20-De31475	CP	%	114			70-130	Pass	
Fluoranthene	S20-De31475	CP	%	89			70-130	Pass	
Fluorene	S20-De31475	CP	%	89			70-130	Pass	
Indeno(1.2.3-cd)pyrene	S20-De31475	CP	%	114			70-130	Pass	
Naphthalene	S20-De31475	CP	%	94			70-130	Pass	
Phenanthrene	S20-De31475	CP	%	95			70-130	Pass	
Pyrene	S20-De31475	CP	%	89			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	S20-De26154	NCP	%	95			75-125	Pass	
Cadmium	S20-De26154	NCP	%	95			75-125	Pass	
Chromium	S20-De26154	NCP	%	89			75-125	Pass	
Copper	S20-De26154	NCP	%	85			75-125	Pass	
Lead	S20-De26154	NCP	%	92			75-125	Pass	
Mercury	S20-De26065	NCP	%	107			75-125	Pass	
Nickel	S20-De26154	NCP	%	89			75-125	Pass	
Zinc	S20-De26065	NCP	%	119			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-De31475	CP	mg/L	0.03	0.03	3.0	30%	Pass	
Cadmium	S20-De31475	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Chromium	S20-De31475	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Copper	S20-De31475	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Lead	S20-De31475	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Mercury	S20-De31475	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Nickel	S20-De31475	CP	mg/L	0.02	0.02	2.0	30%	Pass	
Zinc	S20-De31475	CP	mg/L	0.29	0.25	15	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S20-De31485	CP	mg/L	0.01	0.01	1.0	30%	Pass	
Cadmium	S20-De31485	CP	mg/L	0.035	0.037	6.0	30%	Pass	
Chromium	S20-De31485	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Copper	S20-De31485	CP	mg/L	0.08	0.08	3.0	30%	Pass	
Lead	S20-De31485	CP	mg/L	3.3	3.5	7.0	30%	Pass	
Mercury	S20-De31485	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Nickel	S20-De31485	CP	mg/L	0.17	0.18	6.0	30%	Pass	
Zinc	S20-De31485	CP	mg/L	21	23	6.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
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

Ursula Long	Analytical Services Manager
Andrew Sullivan	Senior Analyst-Organic (NSW)
Charl Du Preez	Senior Analyst-Inorganic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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Sample Receipt Advice

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Contact name:	Chris Bielby
Project name:	ADDITIONAL BLACKWATTLE BAY
Project ID:	60081
Turnaround time:	3 Day
Date/Time received	Dec 15, 2020 4:31 PM
Eurofins reference	763908

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 : 5.4 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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Ursula Long on phone : or by email: UrsulaLong@eurofins.com

Results will be delivered electronically via email to Chris Bielby - cbielby@jbsg.com.au.

Global Leader - Results you can trust

#AU04_Enviro_Sample_NSW

Subject: FW: Eurofins Draft Test Results - Report 761093 : Site BLACKWATTLE BAY (60081)

Importance: High

From: Chris Bielby <CBielby@jbsg.com.au>
Sent: Tuesday, 15 December 2020 4:31 PM
To: Ursula Long <UrsulaLong@eurofins.com>
Subject: RE: Eurofins Draft Test Results - Report 761093 : Site BLACKWATTLE BAY (60081)

EXTERNAL EMAIL*

Hi Ursula, requesting the following additional analysis on 3 day turnaround:

TCLP Heavy metals:

SFM01 0.0-0.1
SFM01 1.0-1.1
SFM03 0.0-0.1
SFM04 0.0-0.1
SFM05 0.0-0.1
SFM05 1.0-1.1
SFM06 0.0-0.1
SFM07 0.0-0.1
SFM07 1.5-1.6
SFM09 0.0-0.1
SFM10 0.0-0.1
SFM10 0.5-0.6
SFM11 0.0-0.1
SFM11 1.0-1.1
SFM12 0.0-0.1
SFM12 0.5-0.6
SFM13 0.0-0.1
SFM13 1.0-1.1
SFM13 2.0-2.1

TCLP PAHs:

SFM01 0.0-0.1
SFM01 1.0-1.1
SFM07 1.5-1.6
SFM10 0.5-0.6
SFM11 0.0-0.1
SFM11 1.0-1.1
SFM12 0.0-0.1
SFM12 0.5-0.6
SFM13 0.0-0.1
SFM13 1.0-1.1
SFM13 2.0-2.1

CrVI (totals and TCLP):

SFM07 1.5-1.6
SFM11 1.0-1.1
SFM12 0.5-0.6

Silica gel clean-up TRH analysis:

SFM01 1.0-1.1
SFM05 0.0-0.1
SFM05 1.0-1.1
SFM06 0.0-0.1
SFM07 1.5-1.6
SFM13 1.0-1.1

Thanks

Chris Bielby | Senior Environmental Consultant | JBS&G
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Contaminated Land | Groundwater Remediation | Approvals and Assessments | Auditing and Compliance | Hygiene and Hazardous Materials | Due Diligence and Liability | Fire Management Planning | Stakeholder and Risk Management

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From: UrsulaLong@eurofins.com <UrsulaLong@eurofins.com>
Sent: Friday, 11 December 2020 7:17 PM
To: Chris Bielby <CBielby@jbsg.com.au>
Subject: Eurofins Draft Test Results - Report 761093 : Site BLACKWATTLE BAY (60081)

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

TOC amd TBT results are still to come.

Our apologies for the delay.

Regards

Ursula Long

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EnviroNote 1108 - Emissions from Stationary Sources
EnviroNote 1103 - NATA Accreditation for Dioxins

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CERTIFICATE OF ANALYSIS 257383

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	C Bennett
Address	Level 1, 50 Margaret St, Sydney, NSW, 2000

Sample Details

Your Reference	**60081, Blackwattle Bay**
Number of Samples	3 Sediment
Date samples received	03/12/2020
Date completed instructions received	03/12/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	10/12/2020
Date of Issue	10/12/2020

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Asbestos Approved By
Analysed by Asbestos Approved Identifier: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Dragana Tomas, Senior Chemist
Ken Nguyen, Reporting Supervisor
Loren Bardwell, Senior Chemist
Lucy Zhu, Asbestos Supervisor
Manju Dewendrage, Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in soil		
Our Reference		257383-1
Your Reference	UNITS	QC01A
Date Sampled		30/11/2020
Type of sample		Sediment
Date extracted	-	03/12/2020
Date analysed	-	04/12/2020
Dichlorodifluoromethane	mg/kg	<1
Chloromethane	mg/kg	<1
Vinyl Chloride	mg/kg	<1
Bromomethane	mg/kg	<1
Chloroethane	mg/kg	<1
Trichlorofluoromethane	mg/kg	<1
1,1-Dichloroethene	mg/kg	<1
trans-1,2-dichloroethene	mg/kg	<1
1,1-dichloroethane	mg/kg	<1
cis-1,2-dichloroethene	mg/kg	<1
bromochloromethane	mg/kg	<1
chloroform	mg/kg	<1
2,2-dichloropropane	mg/kg	<1
1,2-dichloroethane	mg/kg	<1
1,1,1-trichloroethane	mg/kg	<1
1,1-dichloropropene	mg/kg	<1
Cyclohexane	mg/kg	<1
carbon tetrachloride	mg/kg	<1
Benzene	mg/kg	<0.2
dibromomethane	mg/kg	<1
1,2-dichloropropane	mg/kg	<1
trichloroethene	mg/kg	<1
bromodichloromethane	mg/kg	<1
trans-1,3-dichloropropene	mg/kg	<1
cis-1,3-dichloropropene	mg/kg	<1
1,1,2-trichloroethane	mg/kg	<1
Toluene	mg/kg	<0.5
1,3-dichloropropane	mg/kg	<1
dibromochloromethane	mg/kg	<1
1,2-dibromoethane	mg/kg	<1
tetrachloroethene	mg/kg	<1
1,1,1,2-tetrachloroethane	mg/kg	<1
chlorobenzene	mg/kg	<1
Ethylbenzene	mg/kg	<1

VOCs in soil		
Our Reference		257383-1
Your Reference	UNITS	QC01A
Date Sampled		30/11/2020
Type of sample		Sediment
bromoform	mg/kg	<1
m+p-xylene	mg/kg	<2
styrene	mg/kg	<1
1,1,2,2-tetrachloroethane	mg/kg	<1
o-Xylene	mg/kg	<1
1,2,3-trichloropropane	mg/kg	<1
isopropylbenzene	mg/kg	<1
bromobenzene	mg/kg	<1
n-propyl benzene	mg/kg	<1
2-chlorotoluene	mg/kg	<1
4-chlorotoluene	mg/kg	<1
1,3,5-trimethyl benzene	mg/kg	<1
tert-butyl benzene	mg/kg	<1
1,2,4-trimethyl benzene	mg/kg	<1
1,3-dichlorobenzene	mg/kg	<1
sec-butyl benzene	mg/kg	<1
1,4-dichlorobenzene	mg/kg	<1
4-isopropyl toluene	mg/kg	<1
1,2-dichlorobenzene	mg/kg	<1
n-butyl benzene	mg/kg	<1
1,2-dibromo-3-chloropropane	mg/kg	<1
1,2,4-trichlorobenzene	mg/kg	<1
hexachlorobutadiene	mg/kg	<1
1,2,3-trichlorobenzene	mg/kg	<1
Surrogate Dibromofluorometha	%	109
Surrogate aaa-Trifluorotoluene	%	63
Surrogate Toluene-d_8	%	97
Surrogate 4-Bromofluorobenzene	%	84

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		257383-1
Your Reference	UNITS	QC01A
Date Sampled		30/11/2020
Type of sample		Sediment
Date extracted	-	03/12/2020
Date analysed	-	04/12/2020
TRH C_6 - C_9	mg/kg	<25
TRH C_6 - C_{10}	mg/kg	<25
vTPH C_6 - C_{10} less BTEX (F1)	mg/kg	<25
Benzene	mg/kg	<0.2
Toluene	mg/kg	<0.5
Ethylbenzene	mg/kg	<1
m+p-xylene	mg/kg	<2
o-Xylene	mg/kg	<1
naphthalene	mg/kg	<1
Total +ve Xylenes	mg/kg	<3
Surrogate aaa-Trifluorotoluene	%	98

svTRH (C10-C40) in Soil		
Our Reference		257383-1
Your Reference	UNITS	QC01A
Date Sampled		30/11/2020
Type of sample		Sediment
Date extracted	-	03/12/2020
Date analysed	-	03/12/2020
TRH C_{10} - C_{14}	mg/kg	<50
TRH C_{15} - C_{28}	mg/kg	350
TRH C_{29} - C_{36}	mg/kg	480
TRH >C_{10} -C_{16}	mg/kg	<50
TRH >C_{10} - C_{16} less Naphthalene (F2)	mg/kg	<50
TRH >C_{16} -C_{34}	mg/kg	700
TRH >C_{34} -C_{40}	mg/kg	260
Total +ve TRH (>C10-C40)	mg/kg	960
Surrogate o-Terphenyl	%	101

PAHs in Soil			
Our Reference		257383-1	257383-2
Your Reference	UNITS	QC01A	QC02A
Date Sampled		30/11/2020	30/11/2020
Type of sample		Sediment	Sediment
Date extracted	-	03/12/2020	04/12/2020
Date analysed	-	03/12/2020	04/12/2020
Naphthalene	mg/kg	<0.1	<0.1
Acenaphthylene	mg/kg	0.5	0.2
Acenaphthene	mg/kg	<0.1	<0.1
Fluorene	mg/kg	0.2	<0.1
Phenanthrene	mg/kg	1.8	0.5
Anthracene	mg/kg	0.7	0.2
Fluoranthene	mg/kg	3.8	1.1
Pyrene	mg/kg	4.7	1.6
Benzo(a)anthracene	mg/kg	2.2	0.9
Chrysene	mg/kg	2.0	0.8
Benzo(b,j+k)fluoranthene	mg/kg	4.7	1
Benzo(a)pyrene	mg/kg	3.1	0.87
Indeno(1,2,3-c,d)pyrene	mg/kg	1.6	0.5
Dibenzo(a,h)anthracene	mg/kg	0.4	0.1
Benzo(g,h,i)perylene	mg/kg	1.9	0.5
Total +ve PAH's	mg/kg	28	8.6
Benzo(a)pyrene TEQ calc (zero)	mg/kg	4.4	1.3
Benzo(a)pyrene TEQ calc(half)	mg/kg	4.4	1.3
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	4.4	1.3
Surrogate p-Terphenyl-d14	%	121	101

Organochlorine Pesticides in soil		
Our Reference		257383-1
Your Reference	UNITS	QC01A
Date Sampled		30/11/2020
Type of sample		Sediment
Date extracted	-	03/12/2020
Date analysed	-	03/12/2020
alpha-BHC	mg/kg	<0.1
HCB	mg/kg	<0.1
beta-BHC	mg/kg	<0.1
gamma-BHC	mg/kg	<0.1
Heptachlor	mg/kg	<0.1
delta-BHC	mg/kg	<0.1
Aldrin	mg/kg	<0.1
Heptachlor Epoxide	mg/kg	<0.1
gamma-Chlordane	mg/kg	<0.1
alpha-chlordane	mg/kg	<0.1
Endosulfan I	mg/kg	<0.1
pp-DDE	mg/kg	<0.1
Dieldrin	mg/kg	<0.1
Endrin	mg/kg	<0.1
Endosulfan II	mg/kg	<0.1
pp-DDD	mg/kg	<0.1
Endrin Aldehyde	mg/kg	<0.1
pp-DDT	mg/kg	<0.1
Endosulfan Sulphate	mg/kg	<0.1
Methoxychlor	mg/kg	<0.1
Total +ve DDT+DDD+DDE	mg/kg	<0.1
Surrogate TCMX	%	116

PCBs in Soil		
Our Reference		257383-1
Your Reference	UNITS	QC01A
Date Sampled		30/11/2020
Type of sample		Sediment
Date extracted	-	03/12/2020
Date analysed	-	03/12/2020
Aroclor 1016	mg/kg	<0.1
Aroclor 1221	mg/kg	<0.1
Aroclor 1232	mg/kg	<0.1
Aroclor 1242	mg/kg	<0.1
Aroclor 1248	mg/kg	<0.1
Aroclor 1254	mg/kg	<0.1
Aroclor 1260	mg/kg	<0.1
Total +ve PCBs (1016-1260)	mg/kg	<0.1
Surrogate TCMX	%	116

Acid Extractable metals in soil			
Our Reference	UNITS	257383-1	257383-2
Your Reference		QC01A	QC02A
Date Sampled		30/11/2020	30/11/2020
Type of sample		Sediment	Sediment
Date prepared	-	09/12/2020	09/12/2020
Date analysed	-	09/12/2020	09/12/2020
Arsenic	mg/kg	11	<4
Cadmium	mg/kg	1	<0.4
Chromium	mg/kg	23	10
Copper	mg/kg	180	54
Lead	mg/kg	250	170
Mercury	mg/kg	1.1	0.1
Nickel	mg/kg	10	11
Zinc	mg/kg	520	180

Moisture			
Our Reference		257383-1	257383-2
Your Reference	UNITS	QC01A	QC02A
Date Sampled		30/11/2020	30/11/2020
Type of sample		Sediment	Sediment
Date prepared	-	03/01/2020	03/01/2020
Date analysed	-	04/12/2020	04/12/2020
Moisture	%	9.7	9.5

Tributyl Tin in Soil		
Our Reference		257383-1
Your Reference	UNITS	QC01A
Date Sampled		30/11/2020
Type of sample		Sediment
Date extracted	-	08/12/2020
Date analysed	-	10/12/2020
Tributyltin as Sn	µg/kg	38
Surrogate Triphenyltin	%	96

Asbestos ID - soils NEPM - ASB-001		
Our Reference		257383-3
Your Reference	UNITS	AS-QC01A
Date Sampled		30/11/2020
Type of sample		Sediment
Date analysed	-	07/12/2020
Sample mass tested	g	328.87
Sample Description	-	Grey fine-grained soil & rocks
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected
Total Asbestos[#1]	g/kg	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected
ACM >7mm Estimation*	g	–
FA and AF Estimation*	g	–
ACM >7mm Estimation*	%(w/w)	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Ext-054	Analysed by MPL Envirolab
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.

Method ID	Methodology Summary
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore" Total +ve PCBs" is simply a sum of the positive individual PCBs.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS.
Org-022/025	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS/GC-MSMS. Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL'values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero'values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL'values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater.
Org-023	Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes.

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
Date extracted	-			03/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
Date analysed	-			04/12/2020	[NT]	[NT]	[NT]	[NT]	04/12/2020	[NT]
Dichlorodifluoromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
trans-1,2-dichloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
cis-1,2-dichloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bromochloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
chloroform	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
2,2-dichloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]
1,1-dichloropropene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
carbon tetrachloride	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
dibromomethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
trichloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
bromodichloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	90	[NT]
trans-1,3-dichloropropene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
dibromochloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
1,2-dibromoethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
tetrachloroethene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	79	[NT]
1,1,1,2-tetrachloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
chlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bromoform	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
styrene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-4	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
isopropylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
bromobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
tert-butyl benzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
sec-butyl benzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
hexachlorobutadiene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluorometha	%		Org-023	108	[NT]	[NT]	[NT]	[NT]	108	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	95	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate Toluene-d_8	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	97	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	84	[NT]	[NT]	[NT]	[NT]	93	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			03/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
Date analysed	-			04/12/2020	[NT]	[NT]	[NT]	[NT]	04/12/2020	[NT]
TRH C_6 - C_9	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	91	[NT]
TRH C_6 - C_{10}	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	91	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	96	[NT]
Toluene	mg/kg	0.5	Org-023	<0.5	[NT]	[NT]	[NT]	[NT]	92	[NT]
Ethylbenzene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	89	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	89	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	91	[NT]
naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	111	[NT]	[NT]	[NT]	[NT]	84	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			03/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
Date analysed	-			03/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
TRH C_{10} - C_{14}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	117	[NT]
TRH C_{15} - C_{28}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH C_{29} - C_{36}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
TRH >C_{10} -C_{16}	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	117	[NT]
TRH >C_{16} -C_{34}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	110	[NT]
TRH >C_{34} -C_{40}	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	92	[NT]
Surrogate o-Terphenyl	%		Org-020	89	[NT]	[NT]	[NT]	[NT]	95	[NT]

QUALITY CONTROL: PAHs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			04/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
Date analysed	-			04/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Acenaphthylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Benzo(a)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	135	[NT]
Benzo(b,j+k)fluoranthene	mg/kg	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	mg/kg	0.05	Org-022/025	<0.05	[NT]	[NT]	[NT]	[NT]	112	[NT]
Indeno(1,2,3-c,d)pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	100	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: Organochlorine Pesticides in soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			03/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
Date analysed	-			03/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
HCB	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
beta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
gamma-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	105	[NT]
delta-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	97	[NT]
gamma-Chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-chlordane	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDE	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	89	[NT]
Endosulfan II	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDD	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	85	[NT]
Endrin Aldehyde	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
pp-DDT	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	80	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	105	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: PCBs in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date extracted	-			03/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
Date analysed	-			03/12/2020	[NT]	[NT]	[NT]	[NT]	03/12/2020	[NT]
Aroclor 1016	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1221	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1232	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1242	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1248	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Aroclor 1254	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-021	105	[NT]	[NT]	[NT]	[NT]	109	[NT]

QUALITY CONTROL: Acid Extractable metals in soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	[NT]
Date prepared	-			09/12/2020	[NT]	[NT]	[NT]	[NT]	09/12/2020	[NT]
Date analysed	-			09/12/2020	[NT]	[NT]	[NT]	[NT]	09/12/2020	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	101	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	98	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	111	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]

QUALITY CONTROL: Tributyl Tin in Soil						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-8	257383-1
Date extracted	-			08/12/2020	[NT]	[NT]	[NT]	[NT]	08/12/2020	08/12/2020
Date analysed	-			10/12/2020	[NT]	[NT]	[NT]	[NT]	10/12/2020	10/12/2020
Tributyltin as Sn	µg/kg	0.5	Ext-054	<0.5	[NT]	[NT]	[NT]	[NT]	106	#
Surrogate Triphenyltin	%		Ext-054	100	[NT]	[NT]	[NT]	[NT]	100	96

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Asbestos-ID in soil: NEPM
This report is consistent with the reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013. This is reported outside our scope of NATA accreditation.

Note: All samples analysed as received. However, sample 257383-3 below the minimum 500mL sample volume as per National Environment Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.

TBT analysed by MPL.Report no. 254325
Percent recovery is not possible to report due to positive analyte in the sample.

SEND TO ENVIROLAB

22308

CHAIN OF CUSTODY

JBS&G

PROJECT NO.: 60081
PROJECT NAME: BLACKWATTLE BAY
DATE NEEDED BY: Standard
LABORATORY BATCH NO.:
SAMPLERS: CB
QC LEVEL: NEPM (2013)
PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) .....@jbsg.com.au; (3) .....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID		MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	TOC	Heavy Metals	PAHs	TRH/BTEX	OCP/PCBs	VOCs	TBT	Spares	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
QC01A	1	SEDIMENT	30/11/20		JAR + BAGS + ICE												
QC02A	2	"	"		"												
AS-QC01A	3	"	"		"												

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 257383
Date Received: 03/12/2020
Time Received: 16:40
Received By: RL
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: C. BIGGS DATE: 1/12/20	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF:	
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: RDhazgm DATE: 3/12	COOLER TEMP ..... deg C 27.3
OF:	TRANSPORT CO	OF: ELS SYD 03/12	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
			COOLER TEMP ..... deg C

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

IMSO Forms013 – Chain of Custody - Generic

Appendix D – QA/QC Results

ESDAT QA Checker
Project:60081
Filter: ALL

Overview Summary
- Count of Samples
- Count of Results

Holding Times
- Holding Time Errors (238)

Blanks
- Field Blanks
- Detects in Lab Blanks (1)
- SDG's without Storage Blanks (3)
- SDG's without Method Blanks (0)

Duplicates
- Field and Interlab Duplicates
- Lab Duplicates with high RPDs (0)
- Duplicate Samples with incorrect or missing Parent Samples (0)
- Samples at the same Location/Depth/Time not specified as duplicates (19)

Surrogates
- Surrogate Variation > 30% or outside lab LCL or UCL (34)

Lab Control Samples
- SDG's without a Laboratory Control Sample (0)
- Laboratory Control Samples, Error > 30% (1)

Certified and Standard Reference Materials
- Certified Reference Materials - Error > 10% (0)

Matrix Spikes
- SDG's without a Matrix Spike (0)
- Trip Spikes with invalid Control Sample (0)
- Less than 1 matrix spike in 20 samples (0)
- Matrix Spike Recoveries less than 70% or greater than 130% or outside lab LCL or UCL (2)
- Trip Spike Recoveries (70% - 130% is acceptable) (6)

Inorganic
- Na + CL > TDS (0)
- BOD > COD (0)
- BOD > COD (0)

Other
- Unit Conversion Problems (30)
- OriginalChemNames Requiring Validation (2)
- Samples with no Results (1)
- Samples associated with Wells which are not specified in the Well Table (87)
- Aborted Analysis (107)

INSERT QAQC TABLE NAME
Project Number: [Project_ID]
Project Name: [Project_Name]

Contents

Count of Samples

Matrix Type	soil	WATER
First Sample Date	30/11/2020	30/11/2020
Last Sample Date	30/11/2020	30/11/2020
Sampling Period (days)	1	1
Number of Samples Submitted	71	2
Number of Non QA Samples Submitted	66	1
Number of Field Blanks	0	0
Number of Trip Blanks	0	1
Number of Rinsates	0	0
Number of Field Duplicates	3	0
Number of Trip Spikes	0	1
Number of Lab Duplicates	15	2
Number of LCSs	13	5
Number of CRMs	0	0
Number of Method Blanks	11	4
Number of Storage Blanks	0	0
Number of Matrix Spikes	11	3
Number of Matrix Spike Dupes	0	0

Contents

Holding Time Errors

SDG	Matrix_Type	SampleCode	Field_ID	Depth	Sampled_Date-Time	Volatility	ChemName	Result	Sampled_to_Extraction_Days	Sampled_to_Analysis_Days	Major_Exceedance
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	VOC	Naphthalene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	VOC	Naphthalene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	VOC	Naphthalene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	VOC	Naphthalene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	VOC	Naphthalene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	VOC	Naphthalene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	VOC	Naphthalene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	VOC	Naphthalene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	VOC	Naphthalene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	VOC	Naphthalene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	VOC	Naphthalene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Acenaphthene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Acenaphthylene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Anthracene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Benz(a)anthracer	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Benzo(a)pyrene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Benzo(g,h,i)peryl	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Benzo(k)fluoranth	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Chrysene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Fluoranthene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Fluorene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Phenanthrene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	Pyrene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	SVOC	PAHs (Total)	0.001 MG/L	15	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Acenaphthene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Acenaphthylene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Anthracene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Benz(a)anthracer	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Benzo(a)pyrene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Benzo(g,h,i)peryl	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Benzo(k)fluoranth	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Chrysene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Fluoranthene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Fluorene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Phenanthrene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	Pyrene	0.001 MG/L	16	18	Y
763908	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	PAHs (Total)	0.001 MG/L	15	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Acenaphthene	0.002 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Acenaphthylene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Anthracene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Benz(a)anthracer	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Benzo(a)pyrene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Benzo(g,h,i)peryl	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Benzo(k)fluoranth	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Chrysene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Fluoranthene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Fluorene	0.002 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Phenanthrene	0.005 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	Pyrene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	PAHs (Total)	0.011 MG/L	15	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Acenaphthene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Acenaphthylene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Anthracene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Benz(a)anthracer	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Benzo(a)pyrene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Benzo(g,h,i)peryl	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Benzo(k)fluoranth	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Chrysene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Fluoranthene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Fluorene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Phenanthrene	0.002 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	Pyrene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	SVOC	PAHs (Total)	0.004 MG/L	15	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Acenaphthene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Acenaphthylene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Anthracene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Benz(a)anthracer	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Benzo(a)pyrene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Benzo(g,h,i)peryl	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Benzo(k)fluoranth	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Chrysene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Fluoranthene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Fluorene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Phenanthrene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	Pyrene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	PAHs (Total)	0.001 MG/L	15	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Acenaphthene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Acenaphthylene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Anthracene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Benz(a)anthracer	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Benzo(a)pyrene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Benzo(b,j)fluoran	0.003 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Benzo(g,h,i)peryl	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Benzo(k)fluoranth	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Chrysene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Fluoranthene	0.002 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Fluorene	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Phenanthrene	0.002 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	Pyrene	0.002 MG/L	18	18	Y
763908	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	SVOC	PAHs (Total)	0.014 MG/L	15	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Acenaphthene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Acenaphthylene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Anthracene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Benz(a)anthracer	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Benzo(a)pyrene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Benzo(g,h,i)peryl	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Benzo(k)fluoranth	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Chrysene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Fluoranthene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Fluorene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Phenanthrene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	Pyrene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	SVOC	PAHs (Total)	0.001 MG/L	15	18	Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Acenaphthene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Acenaphthylene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Anthracene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Benz(a)anthracer	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Benzo(a)pyrene	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001 MG/L	17	18	Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Benzo(g,h,i)peryl	0.001 MG/L	17	18	Y

763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Benzo(k)fluoranth	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Chrysene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Fluoranthene	0.002	MG/L	17	18 Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Fluorene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Phenanthrene	0.002	MG/L	17	18 Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	Pyrene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	SVOC	PAHs (Total)	0.005	MG/L	15	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Acenaphthene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Acenaphthylene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Anthracene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Benz(a)anthracer	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Benzo(a)pyrene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Benzo(g,h,i)peryle	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Benzo(k)fluoranth	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Chrysene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Fluoranthene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Fluorene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Phenanthrene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	Pyrene	0.001	MG/L	17	18 Y
763908	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	SVOC	PAHs (Total)	0.001	MG/L	15	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Acenaphthene	0.002	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Acenaphthylene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Anthracene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Benz(a)anthracer	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Benzo(a)pyrene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Benzo(g,h,i)peryle	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Benzo(k)fluoranth	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Chrysene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Fluoranthene	0.003	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Fluorene	0.002	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Phenanthrene	0.006	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	Pyrene	0.002	MG/L	18	18 Y
763908	SOIL	S20-De31492	SFM13 2.0-2.1	SFM13	30/11/2020	SVOC	PAHs (Total)	0.017	MG/L	15	18 Y
763908	SOIL	S20-De31496	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	>C10-C16 Fractic	50	MG/KG	17	18 Y
763908	SOIL	S20-De31496	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	>C16-C34 Fractic	3400	MG/K(	17	18 Y
763908	SOIL	S20-De31496	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	>C34-C40 Fractic	340	MG/KG	17	18 Y
763908	SOIL	S20-De31496	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	C10-C14 Fractio	67	MG/KG	17	18 Y
763908	SOIL	S20-De31496	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	C10 - C36 Fractic	2557	MG/K(	15	18 Y
763908	SOIL	S20-De31496	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	C15-C28 Fractio	1900	MG/K(	17	18 Y
763908	SOIL	S20-De31496	SFM01 1.0-1.1	SFM01	30/11/2020	SVOC	C29-C36 Fractio	590	MG/KG	17	18 Y
763908	SOIL	S20-De31497	SFM05 0.0-0.1	SFM05	30/11/2020	SVOC	>C10-C16 Fractic	50	MG/KG	17	18 Y
763908	SOIL	S20-De31497	SFM05 0.0-0.1	SFM05	30/11/2020	SVOC	>C16-C34 Fractic	750	MG/KG	17	18 Y
763908	SOIL	S20-De31497	SFM05 0.0-0.1	SFM05	30/11/2020	SVOC	>C34-C40 Fractic	100	MG/KG	17	18 Y
763908	SOIL	S20-De31497	SFM05 0.0-0.1	SFM05	30/11/2020	SVOC	C10-C14 Fractio	50	MG/KG	17	18 Y
763908	SOIL	S20-De31497	SFM05 0.0-0.1	SFM05	30/11/2020	SVOC	C10 - C36 Fractic	820	MG/KG	15	18 Y
763908	SOIL	S20-De31497	SFM05 0.0-0.1	SFM05	30/11/2020	SVOC	C15-C28 Fractio	380	MG/KG	17	18 Y
763908	SOIL	S20-De31497	SFM05 0.0-0.1	SFM05	30/11/2020	SVOC	C29-C36 Fractio	440	MG/KG	17	18 Y
763908	SOIL	S20-De31498	SFM05 1.0-1.1	SFM05	30/11/2020	SVOC	>C10-C16 Fractic	51	MG/KG	17	18 Y
763908	SOIL	S20-De31498	SFM05 1.0-1.1	SFM05	30/11/2020	SVOC	>C16-C34 Fractic	870	MG/KG	17	18 Y
763908	SOIL	S20-De31498	SFM05 1.0-1.1	SFM05	30/11/2020	SVOC	>C34-C40 Fractic	140	MG/KG	17	18 Y
763908	SOIL	S20-De31498	SFM05 1.0-1.1	SFM05	30/11/2020	SVOC	C10-C14 Fractio	50	MG/KG	17	18 Y
763908	SOIL	S20-De31498	SFM05 1.0-1.1	SFM05	30/11/2020	SVOC	C10 - C36 Fractic	980	MG/KG	15	18 Y
763908	SOIL	S20-De31498	SFM05 1.0-1.1	SFM05	30/11/2020	SVOC	C15-C28 Fractio	470	MG/KG	17	18 Y
763908	SOIL	S20-De31498	SFM05 1.0-1.1	SFM05	30/11/2020	SVOC	C29-C36 Fractio	510	MG/KG	17	18 Y
763908	SOIL	S20-De31499	SFM06 0.0-0.1	SFM06	30/11/2020	SVOC	>C10-C16 Fractic	63	MG/KG	17	18 Y
763908	SOIL	S20-De31499	SFM06 0.0-0.1	SFM06	30/11/2020	SVOC	>C16-C34 Fractic	560	MG/KG	17	18 Y
763908	SOIL	S20-De31499	SFM06 0.0-0.1	SFM06	30/11/2020	SVOC	>C34-C40 Fractic	100	MG/KG	17	18 Y
763908	SOIL	S20-De31499	SFM06 0.0-0.1	SFM06	30/11/2020	SVOC	C10-C14 Fractio	50	MG/KG	17	18 Y
763908	SOIL	S20-De31499	SFM06 0.0-0.1	SFM06	30/11/2020	SVOC	C10 - C36 Fractic	280	MG/KG	15	18 Y
763908	SOIL	S20-De31499	SFM06 0.0-0.1	SFM06	30/11/2020	SVOC	C15-C28 Fractio	280	MG/KG	17	18 Y
763908	SOIL	S20-De31499	SFM06 0.0-0.1	SFM06	30/11/2020	SVOC	C29-C36 Fractio	100	MG/KG	17	18 Y
763908	SOIL	S20-De31500	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	>C10-C16 Fractic	480	MG/KG	17	18 Y
763908	SOIL	S20-De31500	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	>C16-C34 Fractic	4300	MG/K(	17	18 Y
763908	SOIL	S20-De31500	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	>C34-C40 Fractic	510	MG/KG	17	18 Y
763908	SOIL	S20-De31500	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	C10-C14 Fractio	260	MG/KG	17	18 Y
763908	SOIL	S20-De31500	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	C10 - C36 Fractic	5160	MG/K(	15	18 Y
763908	SOIL	S20-De31500	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	C15-C28 Fractio	2800	MG/K(	17	18 Y
763908	SOIL	S20-De31500	SFM07 1.5-1.6	SFM07	30/11/2020	SVOC	C29-C36 Fractio	2100	MG/K(	17	18 Y
763908	SOIL	S20-De31501	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	>C10-C16 Fractic	50	MG/KG	17	18 Y
763908	SOIL	S20-De31501	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	>C16-C34 Fractic	1100	MG/K(	17	18 Y
763908	SOIL	S20-De31501	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	>C34-C40 Fractic	100	MG/KG	17	18 Y
763908	SOIL	S20-De31501	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	C10-C14 Fractio	50	MG/KG	17	18 Y
763908	SOIL	S20-De31501	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	C10 - C36 Fractic	1130	MG/K(	15	18 Y
763908	SOIL	S20-De31501	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	C15-C28 Fractio	760	MG/KG	17	18 Y
763908	SOIL	S20-De31501	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	C29-C36 Fractio	370	MG/KG	17	18 Y
763908	SOIL	S20-De31502	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	>C10-C16 Fractic	61	MG/KG	17	18 Y
763908	SOIL	S20-De31502	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	>C16-C34 Fractic	1000	MG/K(	17	18 Y
763908	SOIL	S20-De31502	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	>C34-C40 Fractic	110	MG/KG	17	18 Y
763908	SOIL	S20-De31502	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	C10-C14 Fractio	50	MG/KG	17	18 Y
763908	SOIL	S20-De31502	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	C10 - C36 Fractic	1150	MG/K(	15	18 Y
763908	SOIL	S20-De31502	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	C15-C28 Fractio	610	MG/KG	17	18 Y
763908	SOIL	S20-De31502	SFM11 0.0-0.1	SFM11	30/11/2020	SVOC	C29-C36 Fractio	540	MG/KG	17	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Acenaphthene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Acenaphthylene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Anthracene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Benz(a)anthracer	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Benzo(a)pyrene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Benzo(b,j)fluoran	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Benzo(g,h,i)peryle	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Benzo(k)fluoranth	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Chrysene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Dibenz(a,h)anthra	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Fluoranthene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Fluorene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Indeno(1,2,3-c,d)	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Phenanthrene	0.001	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	Pyrene	0.002	MG/L	18	18 Y
763908	SOIL	S20-De31608	SFM13 1.0-1.1	SFM13	30/11/2020	SVOC	PAHs (Total)	0.005	MG/L	15	18 Y
257383	soil	257383-1	30/11/2020		30/11/2020	Other	Moisture	9.7	%	-332	4 N
257383	soil	257383-2	30/11/2020		30/11/2020	Other	Moisture	9.5	%	-332	4 N

INSERT QAQC TABLE NAME
Project Number: [Project_ID]
Project Name: [Project_Name]

Field Duplicates (SOIL)
Filter: ALL

	SDG	761093	761093		761093	761093		761093	761093		761093	257383		761093	257383		761093	257383	
	Field ID	SFM13 0.0-0.1	QC01	RPD	SFM03 0.0-0.1	QC02	RPD	SFM03 0-0.6	AS_QC01	RPD	SFM13 0.0-0.1	30/11/2020	RPD	SFM03 0.0-0.1	30/11/2020	RPD	SFM13 0.0-0.1	30/11/2020	RPD
	Sampled Date/Time	30/11/2020	30/11/2020		30/11/2020	30/11/2020		30/11/2020	30/11/2020		30/11/2020	30/11/2020		30/11/2020	30/11/2020		30/11/2020	30/11/2020	
Chem_Grou	ChemName	Units	EQL																
Metals & M	Arsenic (Tot	mg/kg	2 (Primary): 4 (Interlab)	30.0	25.0	18	4.2	3.7	13				**30.0**	**11.0**	**93**	4.2	<4.0	5	30.0		
	Cadmium	mg/kg	0.4	**6.0**	**3.3**	**58**	<0.4	<0.4	0				**6.0**	**1.0**	**143**	<0.4	<0.4	0	6.0		
	Chromium (	mg/kg	5 (Primary): 1 (Interlab)	70.0	59.0	17	**15.0**	**23.0**	**42**				**70.0**	**23.0**	**101**	**15.0**	**10.0**	**40**	70.0		
	Copper	mg/kg	5 (Primary): 1 (Interlab)	310.0	320.0	3	**43.0**	**89.0**	**70**				**310.0**	**180.0**	**53**	43.0	54.0	23	310.0		
	Lead	mg/kg	5 (Primary): 1 (Interlab)	**910.0**	**670.0**	**30**	110.0	85.0	26				**910.0**	**250.0**	**114**	**110.0**	**170.0**	**43**	910.0		
	Mercury (In	mg/kg	0.1	2.4	1.8	29	<0.1	0.1	0				**2.4**	**1.1**	**74**	<0.1	0.1	0	2.4		
	Nickel	mg/kg	5 (Primary): 1 (Interlab)	33.0	27.0	20	**13.0**	**18.0**	**32**				**33.0**	**10.0**	**107**	13.0	11.0	17	33.0		
	Zinc	mg/kg	5 (Primary): 1 (Interlab)	**2100.0**	**1500.0**	**33**	**210.0**	**410.0**	**65**				**2100.0**	**520.0**	**121**	210.0	180.0	15	2100.0		
etalloids																					
TPHs (NEPC	C6-C9 Fract	mg/kg	20 (Primary): 25 (Interlab)	<100.0	<20.0	0							<100.0	<25.0	0				<100.0		
	C10-C14 Fra	mg/kg	20 (Primary): 50 (Interlab)	<100.0	24.0	0							<100.0	<50.0	0				<100.0		
	C15-C28 Fra	mg/kg	50 (Primary): 100 (Interlab	**760.0**	**200.0**	**117**							**760.0**	**350.0**	**74**				760.0		
	C29-C36 Fra	mg/kg	50 (Primary): 100 (Interlab	<250.0	<50.0	0							**<250.0**	**480.0**	**63**				<250.0		
	C10-C36 Fra	mg/kg	50	**760.0**	**224.0**	**109**							760.0						760.0		
1999)																					
TRHs (NEPC	>C10-C16 Fr	mg/kg	50	<250.0	<50.0	0							<250.0	<50.0	0				<250.0		
	>C16-C34 Fr	mg/kg	100	**1300.0**	**340.0**	**117**							**1300.0**	**700.0**	**60**				1300.0		
	>C34-C40 Fr	mg/kg	100	<500.0	<100.0	0							<500.0	260.0	0				<500.0		
	>C10-C40 Fr	mg/kg	100 (Primary): 50 (Interlab	**1300.0**	**340.0**	**117**							**1300.0**	**960.0**	**30**				1300.0		
	>C10-C16 le	mg/kg	50	<250.0	<50.0	0							<250.0	<50.0	0				<250.0		
	C6-C10 Frac	mg/kg	20 (Primary): 25 (Interlab)	<100.0	<20.0	0							<100.0	<25.0	0				<100.0		
	C6-C10 less	mg/kg	20 (Primary): 25 (Interlab)	<100.0	<20.0	0							<100.0	<25.0	0				<100.0		
2013)																					
BTEXN	Benzene	mg/kg	0.1 (Primary): 0.2 (Interlab	<0.5	<0.1	0							<0.5	<0.2	0				<0.5		
	Ethylbenzen	mg/kg	0.1 (Primary): 1 (Interlab)	<0.5	<0.1	0							<0.5	<1.0	0				<0.5		
	Toluene	mg/kg	0.1 (Primary): 0.5 (Interlab	<0.5	<0.1	0							<0.5	<0.5	0				<0.5		
	Xylene (o)	mg/kg	0.1 (Primary): 1 (Interlab)	<0.5	<0.1	0							<0.5	<1.0	0				<0.5		
	Xylene (m &	mg/kg	0.2 (Primary): 2 (Interlab)	<1.0	<0.2	0							<1.0	<2.0	0				<1.0		
	Xylene (Tot	mg/kg	0.3 (Primary): 3 (Interlab)	<1.5	<0.3	0							<1.5	<3.0	0				<1.5		
	Naphthalen	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0	<0.5						<2.5	<0.1	0	<0.5	<0.1	0	<2.5		
	Naphthalen	mg/kg	0.5 (Primary): 1 (Interlab)	<0.5	<0.5	0	<0.5	<0.5	0				<0.5	<0.1	0	<0.5	<0.1	0	<0.5		
Polycyclic A	Acenaphthe	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0	<0.5	<0.5	0				<0.5	<0.1	0	<0.5	<0.1	0	<0.5		
	Acenaphthy	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0	<0.5	<0.5	0				<0.5	0.5	0	<0.5	0.2	0	<0.5		
	Anthracene	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0	<0.5	<0.5	0				**<0.5**	**0.7**	**33**	<0.5	0.2	0	<0.5		
	Benz(a)anth	mg/kg	0.5 (Primary): 0.1 (Interlab	**1.4**	**0.9**	**43**	<0.5	<0.5	0				**1.4**	**2.2**	**44**	**<0.5**	**0.9**	**57**	1.4		
	Benzo(a)pyr	mg/kg	0.5 (Primary): 0.05 (Interla	**2.1**	**1.1**	**63**	0.6	<0.5	18				**2.1**	**3.1**	**38**	**0.6**	**0.87**	**37**	2.1		
	Benzo(a)pyr	mg/kg	0.5	**2.8**	**1.4**	**67**	0.6	<0.5	18				**2.8**	**4.4**	**44**	**0.6**	**1.3**	**74**	2.8		
	Benzo(a)pyr	mg/kg	0.5	**3.0**	**1.7**	**55**	**1.0**	**0.6**	**50**				**3.0**	**4.4**	**38**	1.0	1.3	26	3.0		
	Benzo(a)pyr	mg/kg	0.5	**3.3**	**2.0**	**49**	1.3	1.2	8				3.3	4.4	29	1.3	1.3	0	3.3		
	Benzo(b,j)fl	mg/kg	0.5	**1.5**	**0.9**	**50**	<0.5	<0.5	0				1.5			<0.5			1.5		
	Benzo(g,h,i)	mg/kg	0.5 (Primary): 0.1 (Interlab	**1.2**	**0.5**	**82**	<0.5	<0.5	0				**1.2**	**1.9**	**45**	<0.5	0.5	0	1.2		
	Benzo(k)flu	mg/kg	0.5	**2.4**	**1.1**	**74**	<0.5	<0.5	0				2.4			<0.5			2.4		
	Chrysene	mg/kg	0.5 (Primary): 0.1 (Interlab	**1.0**	**0.7**	**35**	<0.5	<0.5	0				**1.0**	**2.0**	**67**	**<0.5**	**0.8**	**46**	1.0		
	Dibenz(a,h)	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0	<0.5	<0.5	0				<0.5	0.4	0	<0.5	0.1	0	<0.5		
	Fluoranther	mg/kg	0.5 (Primary): 0.1 (Interlab	2.2	2.5	13	0.6	<0.5	18				**2.2**	**3.8**	**53**	**0.6**	**1.1**	**59**	2.2		
	Fluorene	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0	<0.5	<0.5	0				<0.5	0.2	0	<0.5	<0.1	0	<0.5		
	Indeno(1,2,	mg/kg	0.5 (Primary): 0.1 (Interlab	**1.2**	**<0.5**	**82**	<0.5	<0.5	0				1.2	1.6	29	<0.5	0.5	0	1.2		
	Phenanthre	mg/kg	0.5 (Primary): 0.1 (Interlab	**0.9**	**1.4**	**43**	<0.5	<0.5	0				**0.9**	**1.8**	**67**	<0.5	0.5	0	0.9		
	PAHs (Total	mg/kg	0.5	**17.6**	**11.5**	**42**	**1.9**	**<0.5**	**117**				17.6			1.9			17.6		
	Pyrene	mg/kg	0.5 (Primary): 0.1 (Interlab	**3.7**	**2.4**	**43**	**0.7**	**<0.5**	**33**				3.7	4.7	24	**0.7**	**1.6**	**78**	3.7		
omatic Hydrocarbons																					
Organochlo	4,4-DDE	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Aldrin	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Aldrin + Die	mg/kg	0.05	<0.05	<0.05	0							<0.05						<0.05		
	alpha-BHC	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	beta-BHC	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Chlordane	mg/kg	0.1	<0.1	<0.1	0							<0.1						<0.1		
	DDD	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	DDT	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Dieldrin	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	DDT+DDE+D	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	delta-BHC	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Endosulfan	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Endosulfan	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Endosulfan	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Endrin	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Endrin alde	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Endrin keto	mg/kg	0.05	<0.05	<0.05	0							<0.05						<0.05		
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Heptachlor	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Lindane	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
	Methoxychl	mg/kg	0.2 (Primary): 0.1 (Interlab	<0.2	<0.2	0							<0.2	<0.1	0				<0.2		
	Toxaphene	mg/kg	0.1	<0.1	<0.1	0							<0.1						<0.1		
ine Pesticides																					
Chlorinated	1,1,1,2-tetra	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,1,1-trichlo	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,1,2,2-tetra	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,1,2-trichlo	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,1-dichloro	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,2,3-trichlo	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,2-dichloro	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,2-dichloro	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,3-dichloro	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Bromochlor	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Carbon tetr	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Chloroethar	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Chlorometh	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Dichlorodifl	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Dichlorome	mg/kg	0.5	<2.5	<0.5	0							<2.5						<2.5		
	Trichlorofluo	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
Alkanes																					
Chlorinated	1,1-dichloro	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	3-chloropro	mg/kg	0.5	<2.5	<0.5	0							<2.5						<2.5		
	4-chlorotolu	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	cis-1,2-dich	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	cis-1,3-dich	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Tetrachloro	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	trans-1,2-di	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	trans-1,3-di	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Trichloroeth	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Vinyl Chlori	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
Alkenes																					
Solvents	2-Propanon	mg/kg	0.5	<2.5	<0.5	0							<2.5						<2.5		
Polychlorina	Aroclor 101	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0							<0.5	<0.1	0				<0.5		
	Aroclor 122	mg/kg	0.1	<0.1	<0.1	0							<0.1	<0.1	0				<0.1		
	Aroclor 123	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0							<0.5	<0.1	0				<0.5		
	Aroclor 124	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0							<0.5	<0.1	0				<0.5		
	Aroclor 124	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0							<0.5	<0.1	0				<0.5		
	Aroclor 125	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0							<0.5	<0.1	0				<0.5		
	Aroclor 126	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0							<0.5	<0.1	0				<0.5		
	PCBs (Total	mg/kg	0.5 (Primary): 0.1 (Interlab	<0.5	<0.5	0							<0.5	<0.1	0				<0.5		

INSERT QAQC TABLE NAME
Project Number: [Project_ID]
Project Name: [Project_Name]

Field Duplicates (SOIL)
Filter: ALL

			SDG	761093	761093		761093	761093		761093	761093		761093	257383		761093	257383		761093	257383	
			Field ID	SFM13 0.0-0.1	QC01	**RPD**	SFM03 0.0-0.1	QC02	**RPD**	SFM03 0-0.6	AS_QC01	**RPD**	SFM13 0.0-0.1	30/11/2020	**RPD**	SFM03 0.0-0.1	30/11/2020	**RPD**	SFM13 0.0-0.1	30/11/2020	**RPD**
			Sampled Date/Time	30/11/2020	30/11/2020		30/11/2020	30/11/2020		30/11/2020	30/11/2020		30/11/2020	30/11/2020		30/11/2020	30/11/2020		30/11/2020	30/11/2020	
ıted Biphenyls																							
Monocyclic	1,2,4-trimet	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,3,5-trimet	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Bromobenz	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Isopropylbe	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Styrene	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
Aromatic Hydrocarbons																							
Miscellaneo	1,2-dibrom	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	2-Butanone	mg/kg	0.5	<2.5	<0.5	0							<2.5						<2.5		
	4-Methyl-2-	mg/kg	0.5	<2.5	<0.5	0							<2.5						<2.5		
	Bromometh	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Dibromome	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Iodomethan	mg/kg	0.5	<2.5	<0.5	0							<2.5						<2.5		
us Hydrocarbons																							
Chlorinated	1,2-Dichlor	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,3-dichlor	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	1,4-dichlor	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Chlorobenz	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Hexachloro	mg/kg	0.05 (Primary): 0.1 (Interla	<0.05	<0.05	0							<0.05	<0.1	0				<0.05		
Benzenes																							
Trihalometh	Bromodichl	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Chloroform	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Dibromochl	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
	Tribromom	mg/kg	0.5 (Primary): 1 (Interlab)	<2.5	<0.5	0							<2.5	<1.0	0				<2.5		
ıanes																							
Asbestos	Approx. San	G								506.0	396.0	24											
	Asbestos fr	%w/w								0.0	0.0	0											
	Asbestos fr	%w/w								0.0	0.0	0											
	Mass ACM	G								0.0	0.0	0											
	Mass Asbes	G								0.0	0.0	0											
	Mass FA	G								0.0	0.0	0											
	Mass Asbes	G								0.0	0.0	0											
	Mass AF	G								0.0	0.0	0											
	Mass Asbes	G								0.0	0.0	0											
	Mass Asbes	G								0.0	0.0	0											
Asbestos - T	ACM - Com	COMMENT								1.0	1.0	0											
	AF - Comme	COMMENT								1.0	1.0	0											
	FA - Comme	COMMENT								1.0	1.0	0											
	Organic Fib	COMMENT								1.0	1.0	0											
	Respirable F	COMMENT								1.0	1.0	0											
	Synthetic Fi	COMMENT								1.0	1.0	0											
race Analysis																							
Organic Sulf	Carbon disu	mg/kg	0.5	<2.5	<0.5	0							<2.5						<2.5		
ur Compounds																							
Other	% Moisture	%	1	56.0	57.0	2	27.0	35.0	26				56.0			27.0			56.0		
EPA VIC - IV	Chlorinated	mg/kg	0.5	<2.5	<0.5	0							<2.5						<2.5		
	Other Chlor	mg/kg	0.5	<2.5	<0.5	0							<2.5						<2.5		
	Organochlo	mg/kg	0.1	<0.2	<0.2	0							<0.2						<0.2		
	Other Organ	mg/kg	0.1	<0.2	<0.2	0							<0.2						<0.2		

*RPDs have only been considered where a concentration is greater than 1 times the EQL.
**High RPDs are in bold (Acceptable RPDs for each EQL multiplier range are: 30 (1-10 x EQL); 30 (10-30 x EQL); 30 (> 30 x EQL))
***Interlab Duplicates are matched on a per compound basis as methods vary between laboratories. Any methods in the row header relate to those used in the primary laboratory

Contents

Surrogate Variation > 30% or outside lab LCL or UCL

SDG	Expr1001	Lab_Report_Number	Sample_Type	Matrix_Type	SampleCode	Field_ID	Depth	Sampled_Date-Time	Compound	Recovery %	Unit	LCL	UCL
761093	761093	761093	Normal	SOIL	S20-De07241	SFM01 0.0-0.1	SFM01	30/11/2020	4-Bromofluorobenzene (surr.)	68	%	50	150
761093	761093	761093	Normal	SOIL	S20-De07243	SFM01 1.0-1.1	SFM01	30/11/2020	4-Bromofluorobenzene (surr.)	55	%	50	150
761093	761093	761093	Normal	SOIL	S20-De07243	SFM01 1.0-1.1	SFM01	30/11/2020	p-Terphenyl-d14 (surr.)	68	%	30	130
761093	761093	761093	Normal	SOIL	S20-De07243	SFM01 1.0-1.1	SFM01	30/11/2020	Tetrachloro-m-xylene (surr.)	67	%	70	130
761093	761093	761093	Normal	SOIL	S20-De07243	SFM01 1.0-1.1	SFM01	30/11/2020	Toluene-d8 (surr.)	67	%	70	130
761093	761093	761093	Normal	SOIL	S20-De07251	SFM04 0.0-0.1	SFM04	30/11/2020	4-Bromofluorobenzene (surr.)	55	%	50	150
761093	761093	761093	Normal	SOIL	S20-De07256	SFM05 1.0-1.1	SFM05	30/11/2020	4-Bromofluorobenzene (surr.)	55	%	50	150
761093	761093	761093	Normal	SOIL	S20-De07256	SFM05 1.0-1.1	SFM05	30/11/2020	Toluene-d8 (surr.)	63	%	70	130
761093	761093	761093	Normal	SOIL	S20-De07266	SFM09 0.0-0.1	SFM09	30/11/2020	4-Bromofluorobenzene (surr.)	56	%	50	150
761093	761093	761093	Normal	SOIL	S20-De07277	SFM12 0.5-0.6	SFM12	30/11/2020	2-Fluorobiphenyl (surr.)	148	%	30	130
761093	761093	761093	Normal	SOIL	S20-De07279	SFM13 0.0-0.1	SFM13	30/11/2020	2-Fluorobiphenyl (surr.)	147	%	30	130
761093	761093	761093	Normal	SOIL	S20-De07281	SFM13 1.0-1.1	SFM13	30/11/2020	2-Fluorobiphenyl (surr.)	149	%	30	130
761093	761093	761093	Normal	SOIL	S20-De07281	SFM13 1.0-1.1	SFM13	30/11/2020	4-Bromofluorobenzene (surr.)	61	%	50	150
761093	761093	761093	Normal	SOIL	S20-De07281	SFM13 1.0-1.1	SFM13	30/11/2020	Dibutylchlorendate (surr.)	140	%	70	130
761093	761093	761093	Normal	SOIL	S20-De07283	SFM13 2.0-2.1	SFM13	30/11/2020	2-Fluorobiphenyl (surr.)	148	%	30	130
761093	761093	761093	Normal	SOIL	S20-De07283	SFM13 2.0-2.1	SFM13	30/11/2020	4-Bromofluorobenzene (surr.)	64	%	50	150
761093	761093	761093	Normal	SOIL	S20-De07283	SFM13 2.0-2.1	SFM13	30/11/2020	Dibutylchlorendate (surr.)	134	%	70	130
761093	761093	761093	Field_D	SOIL	S20-De07284	QC01	SFM13	30/11/2020	4-Bromofluorobenzene (surr.)	54	%	50	150
761093	761093	761093	Field_D	SOIL	S20-De07284	QC01	SFM13	30/11/2020	Toluene-d8 (surr.)	64	%	70	130
761093	761093	761093	Field_D	SOIL	S20-De07285	QC02	SFM03	30/11/2020	2-Fluorobiphenyl (surr.)	143	%	30	130
761093	761093	761093	Normal	WATER	S20-De07289	RINSATE	RINSATE	30/11/2020	Dibutylchlorendate (surr.)	142	%	70	130
257383			Interlab_D	soil	257383-1	30/11/2020		30/11/2020	Surrogate aaa-Trifluorotoluene	63	%		
763908	763908	763908	Normal	SOIL	S20-De31475	SFM01 0.0-0.1	SFM01	30/11/2020	p-Terphenyl-d14 (surr.)	-999	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31476	SFM01 1.0-1.1	SFM01	30/11/2020	p-Terphenyl-d14 (surr.)	-999	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31483	SFM07 1.5-1.6	SFM07	30/11/2020	2-Fluorobiphenyl (surr.)	65	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31486	SFM10 0.5-0.6	SFM10	30/11/2020	p-Terphenyl-d14 (surr.)	146	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31487	SFM11 0.0-0.1	SFM11	30/11/2020	p-Terphenyl-d14 (surr.)	-999	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31488	SFM11 1.0-1.1	SFM11	30/11/2020	2-Fluorobiphenyl (surr.)	58	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	2-Fluorobiphenyl (surr.)	64	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31489	SFM12 0.0-0.1	SFM12	30/11/2020	p-Terphenyl-d14 (surr.)	149	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	2-Fluorobiphenyl (surr.)	59	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31490	SFM12 0.5-0.6	SFM12	30/11/2020	p-Terphenyl-d14 (surr.)	142	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	2-Fluorobiphenyl (surr.)	53	%	30	130
763908	763908	763908	Normal	SOIL	S20-De31491	SFM13 0.0-0.1	SFM13	30/11/2020	p-Terphenyl-d14 (surr.)	-999	%	30	130

Appendix E – Statistical Outputs

	A	B	C	D	E	F	G	H	I	J
1	As	Cd	Cr	Cu	Pb	Hg	Ni	Zn	Total PAHs	TBT
2	15	1.4	32	210	350	0.8	12	850	1.48	<0.05
3	29	9.3	58	2100	1900	6.5	45	5600	5.34	-
4	3.7	<0.4	25	140	35	<0.1	33	180	<0.5	-
5	4.2	<0.4	15	43	110	<0.1	13	210		-
6	11	1	34	180	350	1.3	22	870		-
7	11	0.6	53	270	250	0.7	39	950	6.6153846	1.53
8	17	2.8	52	190	650	1.3	27	1200	0.5138889	-
9	6.1	<0.4	16	120	130	0.2	12	300	0.3678161	
10	12	1.7	59	160	520	0.7	24	840	0.42	1.1
11	27	13	580	750	1600	6.3	170	2900	0.47	-
12	6.8	0.9	23	140	290	0.5	13	760		-
13	26	4.1	87	310	960	1.8	44	1700	0.1621622	<0.05
14	34	7.6	59	520	1200	5.7	46	2500	107.3	-
15	20	2.3	44	290	510	1.2	27	1300	0.12	-
16	26	7.3	230	530	940	5.8	67	2000	0.56	-
17	31	5.3	76	350	1100	2.8	43	2000	13.96	9.3
18	26	11	390	710	1200	6.4	90	2500	3.78	-
19	30	6	70	310	910	2.4	33	2100	12.57	-
20	25	1.6	22	260	3000	2.9	16	930	1.43	-
21	14	1	21	250	450	1.8	18	770	20.46	4.2
22									1.76	
23										
24										
25									45.873418	
26									40.777778	

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.15/01/2021 2:52:28 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

As

General Statistics

Total Number of Observations	20	Number of Distinct Observations	17
		Number of Missing Observations	0
Minimum	3.7	Mean	18.74
Maximum	34	Median	18.5
SD	9.806	Std. Error of Mean	2.193
Coefficient of Variation	0.523	Skewness	-0.107

Normal GOF Test

Shapiro Wilk Test Statistic	0.926	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.905	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.188	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.192	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	22.53	95% Adjusted-CLT UCL (Chen-1995)	22.29
		95% Modified-t UCL (Johnson-1978)	22.52

Gamma GOF Test

A-D Test Statistic	0.7	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.748	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.21	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.195	Data Not Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.881	k star (bias corrected MLE)	2.482
Theta hat (MLE)	6.505	Theta star (bias corrected MLE)	7.551
nu hat (MLE)	115.2	nu star (bias corrected)	99.28
MLE Mean (bias corrected)	18.74	MLE Sd (bias corrected)	11.9
		Approximate Chi Square Value (0.05)	77.29
Adjusted Level of Significance	0.038	Adjusted Chi Square Value	75.76

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	24.07	95% Adjusted Gamma UCL (use when n<50)	24.56

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.885	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.905	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.204	**Lilliefors Lognormal GOF Test**

55				5% Lilliefors Critical Value		0.192	Data Not Lognormal at 5% Significance Level					
56	**Data Not Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59				Minimum of Logged Data		1.308				Mean of logged Data		2.747
60				Maximum of Logged Data		3.526				SD of logged Data		0.687
61												
62	**Assuming Lognormal Distribution**											
63				95% H-UCL		28.01				90% Chebyshev (MVUE) UCL		29.01
64				95% Chebyshev (MVUE) UCL		33.34				97.5% Chebyshev (MVUE) UCL		39.34
65				99% Chebyshev (MVUE) UCL		51.13						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
69												
70	**Nonparametric Distribution Free UCLs**											
71				95% CLT UCL		22.35				95% Jackknife UCL		22.53
72				95% Standard Bootstrap UCL		22.21				95% Bootstrap-t UCL		22.33
73				95% Hall's Bootstrap UCL		22.03				95% Percentile Bootstrap UCL		22.26
74				95% BCA Bootstrap UCL		22.21						
75				90% Chebyshev(Mean, Sd) UCL		25.32				95% Chebyshev(Mean, Sd) UCL		28.3
76				97.5% Chebyshev(Mean, Sd) UCL		32.43				99% Chebyshev(Mean, Sd) UCL		40.56
77												
78	**Suggested UCL to Use**											
79				95% Student's-t UCL		22.53						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												
86	**Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be**											
87	**reliable. Chen's and Johnson's methods provide adjustments for positvely skewed data sets.**											
88												
89												
90	**Cd**											
91												
92	**General Statistics**											
93				Total Number of Observations		17				Number of Distinct Observations		16
94										Number of Missing Observations		3
95				Minimum		0.6				Mean		4.524
96				Maximum		13				Median		2.8
97				SD		3.907				Std. Error of Mean		0.948
98				Coefficient of Variation		0.864				Skewness		0.896
99												
100	**Normal GOF Test**											
101				Shapiro Wilk Test Statistic		0.872	**Shapiro Wilk GOF Test**					
102				5% Shapiro Wilk Critical Value		0.892	Data Not Normal at 5% Significance Level					
103				Lilliefors Test Statistic		0.2	**Lilliefors GOF Test**					
104				5% Lilliefors Critical Value		0.207	Data appear Normal at 5% Significance Level					
105	**Data appear Approximate Normal at 5% Significance Level**											
106												
107	**Assuming Normal Distribution**											
108	**95% Normal UCL**						**95% UCLs (Adjusted for Skewness)**					

109				95% Student's-t UCL		6.178				95% Adjusted-CLT UCL (Chen-1995)		6.302
110										95% Modified-t UCL (Johnson-1978)		6.212
111												
112					Gamma GOF Test							
113				A-D Test Statistic		0.456				Anderson-Darling Gamma GOF Test		
114				5% A-D Critical Value		0.759				Detected data appear Gamma Distributed at 5% Significance Level		
115				K-S Test Statistic		0.162				Kolmogorov-Smirnov Gamma GOF Test		
116				5% K-S Critical Value		0.214				Detected data appear Gamma Distributed at 5% Significance Level		
117					Detected data appear Gamma Distributed at 5% Significance Level							
118												
119					Gamma Statistics							
120				k hat (MLE)		1.358				k star (bias corrected MLE)		1.157
121				Theta hat (MLE)		3.332				Theta star (bias corrected MLE)		3.909
122				nu hat (MLE)		46.16				nu star (bias corrected)		39.35
123				MLE Mean (bias corrected)		4.524				MLE Sd (bias corrected)		4.205
124										Approximate Chi Square Value (0.05)		25.98
125				Adjusted Level of Significance		0.0346				Adjusted Chi Square Value		24.84
126												
127					Assuming Gamma Distribution							
128				95% Approximate Gamma UCL (use when n>=50))		6.852				95% Adjusted Gamma UCL (use when n<50)		7.165
129												
130					Lognormal GOF Test							
131				Shapiro Wilk Test Statistic		0.941				Shapiro Wilk Lognormal GOF Test		
132				5% Shapiro Wilk Critical Value		0.892				Data appear Lognormal at 5% Significance Level		
133				Lilliefors Test Statistic		0.13				Lilliefors Lognormal GOF Test		
134				5% Lilliefors Critical Value		0.207				Data appear Lognormal at 5% Significance Level		
135					Data appear Lognormal at 5% Significance Level							
136												
137					Lognormal Statistics							
138				Minimum of Logged Data		-0.511				Mean of logged Data		1.098
139				Maximum of Logged Data		2.565				SD of logged Data		0.984
140												
141					Assuming Lognormal Distribution							
142				95% H-UCL		9.335				90% Chebyshev (MVUE) UCL		8.371
143				95% Chebyshev (MVUE) UCL		10.04				97.5% Chebyshev (MVUE) UCL		12.37
144				99% Chebyshev (MVUE) UCL		16.93						
145												
146					Nonparametric Distribution Free UCL Statistics							
147					Data appear to follow a Discernible Distribution at 5% Significance Level							
148												
149					Nonparametric Distribution Free UCLs							
150				95% CLT UCL		6.082				95% Jackknife UCL		6.178
151				95% Standard Bootstrap UCL		6.012				95% Bootstrap-t UCL		6.573
152				95% Hall's Bootstrap UCL		6.22				95% Percentile Bootstrap UCL		6.106
153				95% BCA Bootstrap UCL		6.188						
154				90% Chebyshev(Mean, Sd) UCL		7.367				95% Chebyshev(Mean, Sd) UCL		8.654
155				97.5% Chebyshev(Mean, Sd) UCL		10.44				99% Chebyshev(Mean, Sd) UCL		13.95
156												
157					Suggested UCL to Use							
158				95% Student's-t UCL		6.178						
159												
160	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
161	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
162												

	A	B	C	D	E	F	G	H	I	J	K	L
163	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
164	Recommendations are based upon data size, data distribution, and skewness.											
165	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
166	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
167												
168												
169	**Cr**											
170												
171	**General Statistics**											
172						Total Number of Observations	20				Number of Distinct Observations	19	
173											Number of Missing Observations	0	
174						Minimum	15				Mean	97.3	
175						Maximum	580				Median	52.5	
176						SD	143.8				Std. Error of Mean	32.15	
177						Coefficient of Variation	1.478				Skewness	2.677	
178													
179	**Normal GOF Test**											
180						Shapiro Wilk Test Statistic	0.574				**Shapiro Wilk GOF Test**		
181						5% Shapiro Wilk Critical Value	0.905				Data Not Normal at 5% Significance Level		
182						Lilliefors Test Statistic	0.379				**Lilliefors GOF Test**		
183						5% Lilliefors Critical Value	0.192				Data Not Normal at 5% Significance Level		
184	**Data Not Normal at 5% Significance Level**											
185													
186	**Assuming Normal Distribution**											
187						**95% Normal UCL**					**95% UCLs (Adjusted for Skewness)**		
188						95% Student's-t UCL	152.9				95% Adjusted-CLT UCL (Chen-1995)	170.7	
189											95% Modified-t UCL (Johnson-1978)	156.1	
190													
191	**Gamma GOF Test**											
192						A-D Test Statistic	1.629				**Anderson-Darling Gamma GOF Test**		
193						5% A-D Critical Value	0.769				Data Not Gamma Distributed at 5% Significance Level		
194						K-S Test Statistic	0.257				**Kolmogorov-Smirnov Gamma GOF Test**		
195						5% K-S Critical Value	0.2				Data Not Gamma Distributed at 5% Significance Level		
196	**Data Not Gamma Distributed at 5% Significance Level**											
197													
198	**Gamma Statistics**											
199						k hat (MLE)	0.976				k star (bias corrected MLE)	0.863	
200						Theta hat (MLE)	99.67				Theta star (bias corrected MLE)	112.7	
201						nu hat (MLE)	39.05				nu star (bias corrected)	34.52	
202						MLE Mean (bias corrected)	97.3				MLE Sd (bias corrected)	104.7	
203											Approximate Chi Square Value (0.05)	22.08	
204						Adjusted Level of Significance	0.038				Adjusted Chi Square Value	21.3	
205													
206	**Assuming Gamma Distribution**											
207						95% Approximate Gamma UCL (use when n>=50))	152.1				95% Adjusted Gamma UCL (use when n<50)	157.7	
208													
209	**Lognormal GOF Test**											
210						Shapiro Wilk Test Statistic	0.9				**Shapiro Wilk Lognormal GOF Test**		
211						5% Shapiro Wilk Critical Value	0.905				Data Not Lognormal at 5% Significance Level		
212						Lilliefors Test Statistic	0.164				**Lilliefors Lognormal GOF Test**		
213						5% Lilliefors Critical Value	0.192				Data appear Lognormal at 5% Significance Level		
214	**Data appear Approximate Lognormal at 5% Significance Level**											
215													
216	**Lognormal Statistics**											

217				Minimum of Logged Data		2.708				Mean of logged Data		3.985
218				Maximum of Logged Data		6.363				SD of logged Data		0.993
219												
220	**Assuming Lognormal Distribution**											
221				95% H-UCL		160.2				90% Chebyshev (MVUE) UCL		148.5
222				95% Chebyshev (MVUE) UCL		177.2				97.5% Chebyshev (MVUE) UCL		217
223				99% Chebyshev (MVUE) UCL		295.3						
224												
225	**Nonparametric Distribution Free UCL Statistics**											
226	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
227												
228	**Nonparametric Distribution Free UCLs**											
229				95% CLT UCL		150.2				95% Jackknife UCL		152.9
230				95% Standard Bootstrap UCL		148.4				95% Bootstrap-t UCL		247.5
231				95% Hall's Bootstrap UCL		203				95% Percentile Bootstrap UCL		152.6
232				95% BCA Bootstrap UCL		169.4						
233				90% Chebyshev(Mean, Sd) UCL		193.8				95% Chebyshev(Mean, Sd) UCL		237.4
234				97.5% Chebyshev(Mean, Sd) UCL		298.1				99% Chebyshev(Mean, Sd) UCL		417.2
235												
236	**Suggested UCL to Use**											
237				95% H-UCL		160.2						
238												
239	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
240	Recommendations are based upon data size, data distribution, and skewness.											
241	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
242	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
243												
244	**ProUCL computes and outputs H-statistic based UCLs for historical reasons only.**											
245	**H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.**											
246	**It is therefore recommended to avoid the use of H-statistic based 95% UCLs.**											
247	**Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.**											
248												
249												
250	**Cu**											
251												
252	**General Statistics**											
253				Total Number of Observations		20				Number of Distinct Observations		18
254										Number of Missing Observations		0
255				Minimum		43				Mean		391.7
256				Maximum		2100				Median		265
257				SD		444.6				Std. Error of Mean		99.41
258				Coefficient of Variation		1.135				Skewness		3.28
259												
260	**Normal GOF Test**											
261				Shapiro Wilk Test Statistic		0.606				**Shapiro Wilk GOF Test**		
262				5% Shapiro Wilk Critical Value		0.905				Data Not Normal at 5% Significance Level		
263				Lilliefors Test Statistic		0.287				**Lilliefors GOF Test**		
264				5% Lilliefors Critical Value		0.192				Data Not Normal at 5% Significance Level		
265	**Data Not Normal at 5% Significance Level**											
266												
267	**Assuming Normal Distribution**											
268	**95% Normal UCL**									**95% UCLs (Adjusted for Skewness)**		
269				95% Student's-t UCL		563.5				95% Adjusted-CLT UCL (Chen-1995)		633.1
270										95% Modified-t UCL (Johnson-1978)		575.7

271												
272	**Gamma GOF Test**											
273					A-D Test Statistic	0.798	**Anderson-Darling Gamma GOF Test**					
274					5% A-D Critical Value	0.757	Data Not Gamma Distributed at 5% Significance Level					
275					K-S Test Statistic	0.203	**Kolmogorov-Smirnov Gamma GOF Test**					
276					5% K-S Critical Value	0.197	Data Not Gamma Distributed at 5% Significance Level					
277	**Data Not Gamma Distributed at 5% Significance Level**											
278												
279	**Gamma Statistics**											
280					k hat (MLE)	1.56	k star (bias corrected MLE)	1.36				
281					Theta hat (MLE)	251	Theta star (bias corrected MLE)	288.1				
282					nu hat (MLE)	62.41	nu star (bias corrected)	54.38				
283					MLE Mean (bias corrected)	391.7	MLE Sd (bias corrected)	335.9				
284							Approximate Chi Square Value (0.05)	38.44				
285					Adjusted Level of Significance	0.038	Adjusted Chi Square Value	37.38				
286												
287	**Assuming Gamma Distribution**											
288					95% Approximate Gamma UCL (use when n>=50))	554.1	95% Adjusted Gamma UCL (use when n<50)	569.8				
289												
290	**Lognormal GOF Test**											
291					Shapiro Wilk Test Statistic	0.962	**Shapiro Wilk Lognormal GOF Test**					
292					5% Shapiro Wilk Critical Value	0.905	Data appear Lognormal at 5% Significance Level					
293					Lilliefors Test Statistic	0.142	**Lilliefors Lognormal GOF Test**					
294					5% Lilliefors Critical Value	0.192	Data appear Lognormal at 5% Significance Level					
295	**Data appear Lognormal at 5% Significance Level**											
296												
297	**Lognormal Statistics**											
298					Minimum of Logged Data	3.761	Mean of logged Data	5.617				
299					Maximum of Logged Data	7.65	SD of logged Data	0.818				
300												
301	**Assuming Lognormal Distribution**											
302					95% H-UCL	600.6	90% Chebyshev (MVUE) UCL	600.3				
303					95% Chebyshev (MVUE) UCL	701.9	97.5% Chebyshev (MVUE) UCL	842.8				
304					99% Chebyshev (MVUE) UCL	1120						
305												
306	**Nonparametric Distribution Free UCL Statistics**											
307	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
308												
309	**Nonparametric Distribution Free UCLs**											
310					95% CLT UCL	555.2	95% Jackknife UCL	563.5				
311					95% Standard Bootstrap UCL	549.2	95% Bootstrap-t UCL	756.9				
312					95% Hall's Bootstrap UCL	1172	95% Percentile Bootstrap UCL	567.3				
313					95% BCA Bootstrap UCL	659.5						
314					90% Chebyshev(Mean, Sd) UCL	689.9	95% Chebyshev(Mean, Sd) UCL	825				
315					97.5% Chebyshev(Mean, Sd) UCL	1012	99% Chebyshev(Mean, Sd) UCL	1381				
316												
317	**Suggested UCL to Use**											
318					95% H-UCL	600.6						
319												
320	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
321	Recommendations are based upon data size, data distribution, and skewness.											
322	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
323	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
324												

325	**ProUCL computes and outputs H-statistic based UCLs for historical reasons only.**											
326	**H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.**											
327	**It is therefore recommended to avoid the use of H-statistic based 95% UCLs.**											
328	**Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.**											
329												
330												
331	**Pb**											
332												
333	**General Statistics**											
334						Total Number of Observations	20			Number of Distinct Observations	18	
335										Number of Missing Observations	0	
336						Minimum	35			Mean	822.8	
337						Maximum	3000			Median	585	
338						SD	723			Std. Error of Mean	161.7	
339						Coefficient of Variation	0.879			Skewness	1.598	
340												
341	**Normal GOF Test**											
342						Shapiro Wilk Test Statistic	0.86			**Shapiro Wilk GOF Test**		
343						5% Shapiro Wilk Critical Value	0.905			Data Not Normal at 5% Significance Level		
344						Lilliefors Test Statistic	0.162			**Lilliefors GOF Test**		
345						5% Lilliefors Critical Value	0.192			Data appear Normal at 5% Significance Level		
346	**Data appear Approximate Normal at 5% Significance Level**											
347												
348	**Assuming Normal Distribution**											
349						**95% Normal UCL**				**95% UCLs (Adjusted for Skewness)**		
350						95% Student's-t UCL	1102			95% Adjusted-CLT UCL (Chen-1995)	1150	
351										95% Modified-t UCL (Johnson-1978)	1112	
352												
353	**Gamma GOF Test**											
354						A-D Test Statistic	0.142			**Anderson-Darling Gamma GOF Test**		
355						5% A-D Critical Value	0.761			Detected data appear Gamma Distributed at 5% Significance Level		
356						K-S Test Statistic	0.109			**Kolmogorov-Smirnov Gamma GOF Test**		
357						5% K-S Critical Value	0.198			Detected data appear Gamma Distributed at 5% Significance Level		
358	**Detected data appear Gamma Distributed at 5% Significance Level**											
359												
360	**Gamma Statistics**											
361						k hat (MLE)	1.318			k star (bias corrected MLE)	1.153	
362						Theta hat (MLE)	624.5			Theta star (bias corrected MLE)	713.4	
363						nu hat (MLE)	52.7			nu star (bias corrected)	46.13	
364						MLE Mean (bias corrected)	822.8			MLE Sd (bias corrected)	766.1	
365										Approximate Chi Square Value (0.05)	31.55	
366						Adjusted Level of Significance	0.038			Adjusted Chi Square Value	30.59	
367												
368	**Assuming Gamma Distribution**											
369						95% Approximate Gamma UCL (use when n>=50))	1203			95% Adjusted Gamma UCL (use when n<50)	1241	
370												
371	**Lognormal GOF Test**											
372						Shapiro Wilk Test Statistic	0.954			**Shapiro Wilk Lognormal GOF Test**		
373						5% Shapiro Wilk Critical Value	0.905			Data appear Lognormal at 5% Significance Level		
374						Lilliefors Test Statistic	0.138			**Lilliefors Lognormal GOF Test**		
375						5% Lilliefors Critical Value	0.192			Data appear Lognormal at 5% Significance Level		
376	**Data appear Lognormal at 5% Significance Level**											
377												
378	**Lognormal Statistics**											

379					Minimum of Logged Data	3.555				Mean of logged Data		6.287
380					Maximum of Logged Data	8.006				SD of logged Data		1.073
381												
382	**Assuming Lognormal Distribution**											
383					95% H-UCL	1878				90% Chebyshev (MVUE) UCL		1663
384					95% Chebyshev (MVUE) UCL	2001				97.5% Chebyshev (MVUE) UCL		2471
385					99% Chebyshev (MVUE) UCL	3392						
386												
387	**Nonparametric Distribution Free UCL Statistics**											
388	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
389												
390	**Nonparametric Distribution Free UCLs**											
391					95% CLT UCL	1089				95% Jackknife UCL		1102
392					95% Standard Bootstrap UCL	1088				95% Bootstrap-t UCL		1209
393					95% Hall's Bootstrap UCL	1295				95% Percentile Bootstrap UCL		1097
394					95% BCA Bootstrap UCL	1139						
395					90% Chebyshev(Mean, Sd) UCL	1308				95% Chebyshev(Mean, Sd) UCL		1527
396					97.5% Chebyshev(Mean, Sd) UCL	1832				99% Chebyshev(Mean, Sd) UCL		2431
397												
398	**Suggested UCL to Use**											
399					95% Student's-t UCL	1102						
400												
401	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
402	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
403												
404	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
405	Recommendations are based upon data size, data distribution, and skewness.											
406	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
407	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
408												
409												
410	**Hg**											
411												
412	**General Statistics**											
413					Total Number of Observations	18				Number of Distinct Observations		15
414										Number of Missing Observations		2
415					Minimum	0.2				Mean		2.728
416					Maximum	6.5				Median		1.8
417					SD	2.305				Std. Error of Mean		0.543
418					Coefficient of Variation	0.845				Skewness		0.767
419												
420	**Normal GOF Test**											
421					Shapiro Wilk Test Statistic	0.823				**Shapiro Wilk GOF Test**		
422					5% Shapiro Wilk Critical Value	0.897				Data Not Normal at 5% Significance Level		
423					Lilliefors Test Statistic	0.212				**Lilliefors GOF Test**		
424					5% Lilliefors Critical Value	0.202				Data Not Normal at 5% Significance Level		
425	**Data Not Normal at 5% Significance Level**											
426												
427	**Assuming Normal Distribution**											
428	**95% Normal UCL**									**95% UCLs (Adjusted for Skewness)**		
429					95% Student's-t UCL	3.673				95% Adjusted-CLT UCL (Chen-1995)		3.726
430										95% Modified-t UCL (Johnson-1978)		3.689
431												
432	**Gamma GOF Test**											

433				A-D Test Statistic	0.517	**Anderson-Darling Gamma GOF Test**						
434				5% A-D Critical Value	0.759	Detected data appear Gamma Distributed at 5% Significance Level						
435				K-S Test Statistic	0.172	**Kolmogorov-Smirnov Gamma GOF Test**						
436				5% K-S Critical Value	0.208	Detected data appear Gamma Distributed at 5% Significance Level						
437	**Detected data appear Gamma Distributed at 5% Significance Level**											
438												
439	**Gamma Statistics**											
440				k hat (MLE)	1.362	k star (bias corrected MLE)	1.172					
441				Theta hat (MLE)	2.003	Theta star (bias corrected MLE)	2.328					
442				nu hat (MLE)	49.02	nu star (bias corrected)	42.18					
443				MLE Mean (bias corrected)	2.728	MLE Sd (bias corrected)	2.52					
444						Approximate Chi Square Value (0.05)	28.29					
445				Adjusted Level of Significance	0.0357	Adjusted Chi Square Value	27.2					
446												
447	**Assuming Gamma Distribution**											
448				95% Approximate Gamma UCL (use when n>=50)	4.067	95% Adjusted Gamma UCL (use when n<50)	4.23					
449												
450	**Lognormal GOF Test**											
451				Shapiro Wilk Test Statistic	0.939	**Shapiro Wilk Lognormal GOF Test**						
452				5% Shapiro Wilk Critical Value	0.897	Data appear Lognormal at 5% Significance Level						
453				Lilliefors Test Statistic	0.15	**Lilliefors Lognormal GOF Test**						
454				5% Lilliefors Critical Value	0.202	Data appear Lognormal at 5% Significance Level						
455	**Data appear Lognormal at 5% Significance Level**											
456												
457	**Lognormal Statistics**											
458				Minimum of Logged Data	-1.609	Mean of logged Data	0.593					
459				Maximum of Logged Data	1.872	SD of logged Data	1.009					
460												
461	**Assuming Lognormal Distribution**											
462				95% H-UCL	5.764	90% Chebyshev (MVUE) UCL	5.19					
463				95% Chebyshev (MVUE) UCL	6.23	97.5% Chebyshev (MVUE) UCL	7.673					
464				99% Chebyshev (MVUE) UCL	10.51							
465												
466	**Nonparametric Distribution Free UCL Statistics**											
467	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
468												
469	**Nonparametric Distribution Free UCLs**											
470				95% CLT UCL	3.621	95% Jackknife UCL	3.673					
471				95% Standard Bootstrap UCL	3.6	95% Bootstrap-t UCL	3.805					
472				95% Hall's Bootstrap UCL	3.572	95% Percentile Bootstrap UCL	3.661					
473				95% BCA Bootstrap UCL	3.783							
474				90% Chebyshev(Mean, Sd) UCL	4.358	95% Chebyshev(Mean, Sd) UCL	5.096					
475				97.5% Chebyshev(Mean, Sd) UCL	6.121	99% Chebyshev(Mean, Sd) UCL	8.133					
476												
477	**Suggested UCL to Use**											
478				95% Adjusted Gamma UCL	4.23							
479												
480	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
481	Recommendations are based upon data size, data distribution, and skewness.											
482	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
483	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
484												
485												
486	**Ni**											

487												
488	**General Statistics**											
489					Total Number of Observations	20				Number of Distinct Observations		16
490										Number of Missing Observations		0
491					Minimum	12				Mean		39.7
492					Maximum	170				Median		30
493					SD	36.5				Std. Error of Mean		8.162
494					Coefficient of Variation	0.919				Skewness		2.696
495												
496	**Normal GOF Test**											
497					Shapiro Wilk Test Statistic	0.693	**Shapiro Wilk GOF Test**					
498					5% Shapiro Wilk Critical Value	0.905	Data Not Normal at 5% Significance Level					
499					Lilliefors Test Statistic	0.281	**Lilliefors GOF Test**					
500					5% Lilliefors Critical Value	0.192	Data Not Normal at 5% Significance Level					
501	**Data Not Normal at 5% Significance Level**											
502												
503	**Assuming Normal Distribution**											
504	**95% Normal UCL**						**95% UCLs (Adjusted for Skewness)**					
505					95% Student's-t UCL	53.81				95% Adjusted-CLT UCL (Chen-1995)		58.38
506										95% Modified-t UCL (Johnson-1978)		54.63
507												
508	**Gamma GOF Test**											
509					A-D Test Statistic	0.609	**Anderson-Darling Gamma GOF Test**					
510					5% A-D Critical Value	0.752	Detected data appear Gamma Distributed at 5% Significance Level					
511					K-S Test Statistic	0.177	**Kolmogorov-Smirnov Gamma GOF Test**					
512					5% K-S Critical Value	0.196	Detected data appear Gamma Distributed at 5% Significance Level					
513	**Detected data appear Gamma Distributed at 5% Significance Level**											
514												
515	**Gamma Statistics**											
516					k hat (MLE)	2.028				k star (bias corrected MLE)		1.758
517					Theta hat (MLE)	19.57				Theta star (bias corrected MLE)		22.59
518					nu hat (MLE)	81.14				nu star (bias corrected)		70.3
519					MLE Mean (bias corrected)	39.7				MLE Sd (bias corrected)		29.95
520										Approximate Chi Square Value (0.05)		52
521					Adjusted Level of Significance	0.038				Adjusted Chi Square Value		50.75
522												
523	**Assuming Gamma Distribution**											
524					95% Approximate Gamma UCL (use when n>=50)	53.67				95% Adjusted Gamma UCL (use when n<50)		54.99
525												
526	**Lognormal GOF Test**											
527					Shapiro Wilk Test Statistic	0.946	**Shapiro Wilk Lognormal GOF Test**					
528					5% Shapiro Wilk Critical Value	0.905	Data appear Lognormal at 5% Significance Level					
529					Lilliefors Test Statistic	0.129	**Lilliefors Lognormal GOF Test**					
530					5% Lilliefors Critical Value	0.192	Data appear Lognormal at 5% Significance Level					
531	**Data appear Lognormal at 5% Significance Level**											
532												
533	**Lognormal Statistics**											
534					Minimum of Logged Data	2.485				Mean of logged Data		3.415
535					Maximum of Logged Data	5.136				SD of logged Data		0.706
536												
537	**Assuming Lognormal Distribution**											
538					95% H-UCL	56.12				90% Chebyshev (MVUE) UCL		57.89
539					95% Chebyshev (MVUE) UCL	66.7				97.5% Chebyshev (MVUE) UCL		78.92
540					99% Chebyshev (MVUE) UCL	102.9						

541												
542	**Nonparametric Distribution Free UCL Statistics**											
543	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
544												
545	**Nonparametric Distribution Free UCLs**											
546					95% CLT UCL	53.13			95% Jackknife UCL	53.81		
547					95% Standard Bootstrap UCL	52.52			95% Bootstrap-t UCL	65.72		
548					95% Hall's Bootstrap UCL	115.5			95% Percentile Bootstrap UCL	55		
549					95% BCA Bootstrap UCL	60.35						
550					90% Chebyshev(Mean, Sd) UCL	64.19			95% Chebyshev(Mean, Sd) UCL	75.28		
551					97.5% Chebyshev(Mean, Sd) UCL	90.67			99% Chebyshev(Mean, Sd) UCL	120.9		
552												
553	**Suggested UCL to Use**											
554					95% Adjusted Gamma UCL	54.99						
555												
556	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
557	Recommendations are based upon data size, data distribution, and skewness.											
558	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
559	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
560												
561												
562	**Zn**											
563												
564	**General Statistics**											
565					Total Number of Observations	20			Number of Distinct Observations	18		
566									Number of Missing Observations	0		
567					Minimum	180			Mean	1523		
568					Maximum	5600			Median	1075		
569					SD	1248			Std. Error of Mean	279.1		
570					Coefficient of Variation	0.82			Skewness	1.923		
571												
572	**Normal GOF Test**											
573					Shapiro Wilk Test Statistic	0.821			**Shapiro Wilk GOF Test**			
574					5% Shapiro Wilk Critical Value	0.905			Data Not Normal at 5% Significance Level			
575					Lilliefors Test Statistic	0.177			**Lilliefors GOF Test**			
576					5% Lilliefors Critical Value	0.192			Data appear Normal at 5% Significance Level			
577	**Data appear Approximate Normal at 5% Significance Level**											
578												
579	**Assuming Normal Distribution**											
580					**95% Normal UCL**				**95% UCLs (Adjusted for Skewness)**			
581					95% Student's-t UCL	2006			95% Adjusted-CLT UCL (Chen-1995)	2110		
582									95% Modified-t UCL (Johnson-1978)	2026		
583												
584	**Gamma GOF Test**											
585					A-D Test Statistic	0.356			**Anderson-Darling Gamma GOF Test**			
586					5% A-D Critical Value	0.755			Detected data appear Gamma Distributed at 5% Significance Level			
587					K-S Test Statistic	0.14			**Kolmogorov-Smirnov Gamma GOF Test**			
588					5% K-S Critical Value	0.197			Detected data appear Gamma Distributed at 5% Significance Level			
589	**Detected data appear Gamma Distributed at 5% Significance Level**											
590												
591	**Gamma Statistics**											
592					k hat (MLE)	1.734			k star (bias corrected MLE)	1.507		
593					Theta hat (MLE)	878.3			Theta star (bias corrected MLE)	1010		
594					nu hat (MLE)	69.36			nu star (bias corrected)	60.29		

595	MLE Mean (bias corrected)					1523	MLE Sd (bias corrected)					1241
596							Approximate Chi Square Value (0.05)					43.43
597	Adjusted Level of Significance					0.038	Adjusted Chi Square Value					42.3
598												
599	**Assuming Gamma Distribution**											
600	95% Approximate Gamma UCL (use when n>=50))					2114	95% Adjusted Gamma UCL (use when n<50)					2171
601												
602	**Lognormal GOF Test**											
603	Shapiro Wilk Test Statistic					0.943	**Shapiro Wilk Lognormal GOF Test**					
604	5% Shapiro Wilk Critical Value					0.905	Data appear Lognormal at 5% Significance Level					
605	Lilliefors Test Statistic					0.182	**Lilliefors Lognormal GOF Test**					
606	5% Lilliefors Critical Value					0.192	Data appear Lognormal at 5% Significance Level					
607	**Data appear Lognormal at 5% Significance Level**											
608												
609	**Lognormal Statistics**											
610	Minimum of Logged Data					5.193	Mean of logged Data					7.013
611	Maximum of Logged Data					8.631	SD of logged Data					0.874
612												
613	**Assuming Lognormal Distribution**											
614	95% H-UCL					2663	90% Chebyshev (MVUE) UCL					2608
615	95% Chebyshev (MVUE) UCL					3070	97.5% Chebyshev (MVUE) UCL					3712
616	99% Chebyshev (MVUE) UCL					4972						
617												
618	**Nonparametric Distribution Free UCL Statistics**											
619	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
620												
621	**Nonparametric Distribution Free UCLs**											
622	95% CLT UCL					1982	95% Jackknife UCL					2006
623	95% Standard Bootstrap UCL					1979	95% Bootstrap-t UCL					2249
624	95% Hall's Bootstrap UCL					2606	95% Percentile Bootstrap UCL					1988
625	95% BCA Bootstrap UCL					2119						
626	90% Chebyshev(Mean, Sd) UCL					2360	95% Chebyshev(Mean, Sd) UCL					2740
627	97.5% Chebyshev(Mean, Sd) UCL					3266	99% Chebyshev(Mean, Sd) UCL					4300
628												
629	**Suggested UCL to Use**											
630	95% Student's-t UCL					2006						
631												
632	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
633	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
634												
635	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
636	Recommendations are based upon data size, data distribution, and skewness.											
637	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
638	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
639												

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.15/01/2021 3:37:06 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Total PAHs

General Statistics

Total Number of Observations	19	Number of Distinct Observations	19
		Number of Missing Observations	6
Minimum	0.12	Mean	13.89
Maximum	107.3	Median	1.76
SD	26.33	Std. Error of Mean	6.041
Coefficient of Variation	1.895	Skewness	2.865

Normal GOF Test

Shapiro Wilk Test Statistic	0.584	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.901	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.3	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.197	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	24.37	95% Adjusted-CLT UCL (Chen-1995)	28.07
		95% Modified-t UCL (Johnson-1978)	25.03

Gamma GOF Test

A-D Test Statistic	0.749	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.823	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.19	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.213	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.401	k star (bias corrected MLE)	0.372
Theta hat (MLE)	34.68	Theta star (bias corrected MLE)	37.3
nu hat (MLE)	15.22	nu star (bias corrected)	14.15
MLE Mean (bias corrected)	13.89	MLE Sd (bias corrected)	22.76
		Approximate Chi Square Value (0.05)	6.677
Adjusted Level of Significance	0.0369	Adjusted Chi Square Value	6.232

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	29.45	95% Adjusted Gamma UCL (use when n<50)	31.55

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.956	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.901	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.149	**Lilliefors Lognormal GOF Test**

55	5% Lilliefors Critical Value					0.197	Data appear Lognormal at 5% Significance Level					
56	**Data appear Lognormal at 5% Significance Level**											
57												
58	**Lognormal Statistics**											
59	Minimum of Logged Data					-2.12	Mean of logged Data					0.989
60	Maximum of Logged Data					4.676	SD of logged Data					2.024
61												
62	**Assuming Lognormal Distribution**											
63	95% H-UCL					162	90% Chebyshev (MVUE) UCL					43.36
64	95% Chebyshev (MVUE) UCL					55.72	97.5% Chebyshev (MVUE) UCL					72.88
65	99% Chebyshev (MVUE) UCL					106.6						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
69												
70	**Nonparametric Distribution Free UCLs**											
71	95% CLT UCL					23.83	95% Jackknife UCL					24.37
72	95% Standard Bootstrap UCL					23.54	95% Bootstrap-t UCL					38.05
73	95% Hall's Bootstrap UCL					55.76	95% Percentile Bootstrap UCL					24.38
74	95% BCA Bootstrap UCL					28.67						
75	90% Chebyshev(Mean, Sd) UCL					32.01	95% Chebyshev(Mean, Sd) UCL					40.22
76	97.5% Chebyshev(Mean, Sd) UCL					51.62	99% Chebyshev(Mean, Sd) UCL					74
77												
78	**Suggested UCL to Use**											
79	95% Adjusted Gamma UCL					31.55						
80												
81	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
82	Recommendations are based upon data size, data distribution, and skewness.											
83	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
84	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
85												

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.15/01/2021 4:04:15 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TBT

General Statistics

Total Number of Observations	4	Number of Distinct Observations	4
		Number of Missing Observations	16
Minimum	1.1	Mean	4.033
Maximum	9.3	Median	2.865
SD	3.77	Std. Error of Mean	1.885
Coefficient of Variation	0.935	Skewness	1.31

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.1

Normal GOF Test

Shapiro Wilk Test Statistic	0.868	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.748	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.247	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.375	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	8.468	95% Adjusted-CLT UCL (Chen-1995)	8.452
		95% Modified-t UCL (Johnson-1978)	8.674

Gamma GOF Test

A-D Test Statistic	0.314	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.662	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.279	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.399	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.583	k star (bias corrected MLE)	0.562
Theta hat (MLE)	2.547	Theta star (bias corrected MLE)	7.17
nu hat (MLE)	12.66	nu star (bias corrected)	4.499
MLE Mean (bias corrected)	4.033	MLE Sd (bias corrected)	5.377
		Approximate Chi Square Value (0.05)	0.928
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	19.54	95% Adjusted Gamma UCL (use when n<50)	N/A

55												
56	**Lognormal GOF Test**											
57					Shapiro Wilk Test Statistic	0.942	**Shapiro Wilk Lognormal GOF Test**					
58					5% Shapiro Wilk Critical Value	0.748	Data appear Lognormal at 5% Significance Level					
59					Lilliefors Test Statistic	0.238	**Lilliefors Lognormal GOF Test**					
60					5% Lilliefors Critical Value	0.375	Data appear Lognormal at 5% Significance Level					
61	**Data appear Lognormal at 5% Significance Level**											
62												
63	**Lognormal Statistics**											
64					Minimum of Logged Data	0.0953			Mean of logged Data	1.046		
65					Maximum of Logged Data	2.23			SD of logged Data	0.973		
66												
67	**Assuming Lognormal Distribution**											
68					95% H-UCL	176.5			90% Chebyshev (MVUE) UCL	9.38		
69					95% Chebyshev (MVUE) UCL	11.83			97.5% Chebyshev (MVUE) UCL	15.23		
70					99% Chebyshev (MVUE) UCL	21.91						
71												
72	**Nonparametric Distribution Free UCL Statistics**											
73	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
74												
75	**Nonparametric Distribution Free UCLs**											
76					95% CLT UCL	7.133			95% Jackknife UCL	8.468		
77					95% Standard Bootstrap UCL	N/A			95% Bootstrap-t UCL	N/A		
78					95% Hall's Bootstrap UCL	N/A			95% Percentile Bootstrap UCL	N/A		
79					95% BCA Bootstrap UCL	N/A						
80					90% Chebyshev(Mean, Sd) UCL	9.687			95% Chebyshev(Mean, Sd) UCL	12.25		
81					97.5% Chebyshev(Mean, Sd) UCL	15.8			99% Chebyshev(Mean, Sd) UCL	22.79		
82												
83	**Suggested UCL to Use**											
84					95% Student's-t UCL	8.468						
85												
86	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
87	Recommendations are based upon data size, data distribution, and skewness.											
88	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
89	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
90												

Appendix F – Photographic Log

PHOTOGRAPH 1: THE INVESTIGATION AREA – FACING NORTH-WEST

PHOTOGRAPH 2: THE INVESTIGATION AREA – FACING NORTH-EAST

PHOTOGRAPH 3:CORE AT SFM01

PHOTOGRAPH 4: CORE AT SFM06

JBS&G

Job No: 60081	
Client: Infrastructure NSW	
Version: R01 Rev A	Date: 08/01/2021
Drawn By: CB	Checked By: CB
Not to Scale	
Coord. Sys n/a	

Sediment Characterisation Assessment - nSFM

APPENDIX F – PHOTO LOG

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