



Detailed Site Investigation, 253-265 Pacific Highway, North Sydney

Legacy Property

Report

68635 | 165 448

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We acknowledge the Traditional Custodians of Country throughout Australia and their connections to land, sea and community.

We pay respect to Elders past and present and in the spirit of reconciliation, we commit to working together for our shared future.



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Abbreviations

Term	Definition
ACM	Asbestos Containing Material
AECs	Areas of Environmental Concern
AHD	Australian Height Datum
ASS	Acid Sulfate Soils
B(a)P	Benzo(a)pyrene
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
COC	Chain of Custody
COPCs	Contaminants of Potential Concern
CSM	Conceptual Site Model
DA	Design Application
DP	Deposited Plan
DQIs	Data Quality Indicators
DQOs	Data Quality Objectives
DSI	Detailed Site Investigation
EIL	Ecological Investigation Levels
EPA	NSW Environment Protection Authority
ESA	Environmental Site Assessment
ESL	Ecological Screening Levels
GME	Groundwater Monitoring Event
GPS	Global Positioning System
GSW	General Solid Waste
HIL	Health Investigation Levels
HSL	Health Screening Levels
JBS&G	JBS&G Australia Pty Ltd
Legacy	Legacy Property Group
LEP	Local Environmental Plan
LOR	Limit of Reporting
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
OCPs	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PARCCS	Precision, Accuracy, Representativeness, Comparability, Completeness, and Sensitivity
PCBs	Polychlorinated Biphenyls
PID	Photo-ionisation Detector
PSI	Preliminary Site Investigation
QA/QC	Quality Assurance/Quality Control
RAP	Remedial Action Plan
RPD	Relative Percent Difference

Term	Definition
RSW	Restricted Solid Waste
SEARs	Secretary's Environmental Assessment Requirements
SP	Strata Plan
SSDA	State Significant Development Application
TCLP	Toxicity Characteristic Leaching Procedure
TRH	Total Recoverable Hydrocarbons
UF	Unexpected Find
VENM	Virgin Excavated Natural Material
VOCs	Volatile Organic Compounds

Executive Summary

JBS&G Australia Pty Ltd (JBS&G) was engaged by Legacy Property Group (Legacy, the client), to conduct a Detailed Site Investigation (DSI) for land located 253-265 Pacific Highway, North Sydney NSW (SP16134, SP22870, Lot 51 DP714323, and Lot B DP321904), which occupies an area of approximately 1,1000 m². The site location and layout are presented on **Figure 1** and **Figure 2** in **Appendix A**, respectively.

This DSI has been prepared to support a State Significant Development Application (SSD-84416958) and respond to Planning Secretary's Environmental Assessment Requirements (SEAR's). The proposed SSDA is to increase the height limit and floor space ratio (FSR) on the site. There is no change to the existing B4 Mixed Use zoning of the site and as such no change to the permissible uses on the site. The reference design submitted with the planning proposal contemplates a mixed use building up to 10 storeys with retail/commercial uses within the podium and residential apartments above. Underground car parking is proposed on four basement levels, excavated to approximately 75.5 m Australian Height Datum (AHD), across the majority of the development floor plate. A drained basement is potentially proposed for the development and ongoing discharges of seepage may require management.

Previously, a Preliminary Site Investigation (PSI, JBS&G 2018¹) was conducted at 253-267 Pacific Highway by JBS&G. Since reporting the PSI, 267 Pacific Highway has been removed from the proposed development area. The PSI concluded there was a low potential for contamination across the majority of the site. A review of site history has indicated that the property located at 267 Pacific Highway and 255-259 were utilised for potentially contaminating land uses (respectively service station/garage and, chemical handling and car sales/hire). However, historic redevelopment of 267 and 255-259 Pacific Highway has likely removed any former underground infrastructure and shallow, potentially impacted soils.

The site comprised of an approximate rectangular portion of land with four properties sitting on top of concrete pathways and basement flooring, asphalt roadways, brick pathways bound by the Pacific Highway, West Street, McLaren Street and Church Lane.

The scope of works included a review of previous investigations, soil sampling at eight sample locations on a systematic grid, soil vapour sampling at two sample locations, groundwater sampling from three geotechnical boreholes, and the preparation of this DSI report.

Based on the findings of this assessment and subject to the limitations in **Section 11**, it is concluded that the site can be made suitable for the proposed mixed-use commercial/residential development with the implementation of a Remedial Action Plan (RAP) for the shallow impacted fill materials.

A RAP is required to manage the contamination identified within the shallow fill material at site. Due to the age of the buildings, a Hazardous Buildings Survey would be recommended prior to work at 253 and 265 Pacific Highway.

¹ Phase 1 Environmental Site Assessment 253-267 Pacific Highway, North Sydney, NSW, JBS&G Australia Pty Ltd, 5 September 2018 54063/110429 Rev 1. (JBS&G 2018)

1. Introduction

JBS&G Australia Pty Ltd (JBS&G) was engaged by Legacy Property Group (Legacy, the client), to conduct a Detailed Site Investigation (DSI) for land located 253-265 Pacific Highway, North Sydney NSW (SP16134, SP22870, Lot 51 DP714323 and Lot B DP321904), which occupies an area of approximately 1,100 m². The site location and layout are presented on **Figure 1** and **Figure 2** in **Appendix A**, respectively.

This DSI has been prepared to support a State Significant Development Application (SSD-84416958) and respond to Planning Secretary's Environmental Assessment Requirements (SEAR's). The proposed SSDA is to increase the height limit and floor space ratio (FSR) on the site. There is no change to the existing B4 Mixed Use zoning of the site and as such no change to the permissible uses on the site. The reference design submitted with the planning proposal contemplates a mixed use building up to 10 storeys with retail/commercial uses within the podium and residential apartments above. Underground car parking is proposed on four basement levels, excavated to approximately 75.5 m Australian Height Datum (AHD), across the majority of the development floor plate. A drained basement is potentially proposed for the development and ongoing discharges of seepage may require management.

Previously, a Preliminary Site Investigation (PSI, JBS&G 2018²) was conducted at 253-267 Pacific Highway by JBS&G. Since reporting the PSI, 267 Pacific Highway has been removed from the proposed development area. The PSI concluded there was a low potential for contamination across the majority of the site. A review of site history has indicated that the property located at 267 Pacific Highway and 255-259 were utilised for potentially contaminating land uses (respectively service station/garage and, chemical handling and car sales/hire). However, historic redevelopment of 267 and 255-259 Pacific Highway has likely removed any former underground infrastructure and shallow, potentially impacted soils.

The investigation documented herein has been developed with reference to Chapter 4 of the State Environmental Planning Policy (Resilience and Hazards) 2021 and in general accordance with guidelines made or approved by the NSW Environment Protection Authority (EPA) including National Environment Protection Council (NEPC 2013³) National Environment Protection (Assessment of Site Contamination) Measure 1999 as amended 2013 (NEPM), and relevant Australian Standards.

1.1 Objectives

The objectives of DSI are to characterise potential contamination at the site, and to draw conclusions regarding the suitability of the site for the proposed use or make recommendations to enable such conclusions to be drawn.

1.2 Scope of Work

To achieve the objectives of the investigation, the following scope of works was conducted:

- Review of previous investigation reports including environmental setting and historical site activities to identify areas of environmental concern (AECs) and associated contaminants of potential concern (COPCs);

² *Phase 1 Environmental Site Assessment 253-267 Pacific Highway, North Sydney, NSW*, JBS&G Australia Pty Ltd, 5 September 2018, 54063/110429, Rev 1. (JBS&G 2018)

³ *National Environment Protection (Assessment of Site Contamination) Measure 1999* (as amended 2013), National Environment Protection Council, 2013 (NEPC 2013).

- Completion of a detailed site inspection and soil and vapour sampling;
- Completion of one round of groundwater sampling, including the recording of physical parameters during the groundwater sampling event and collection of samples for laboratory analysis;
- Laboratory analysis of representative soil samples for a range of contaminants of potential concern (COPCs) including heavy metals, total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene and xylene (BTEX), polycyclic aromatic hydrocarbons (PAHs), asbestos, organochlorine pesticides (OCPs), polychlorinated biphenyls (PCBs) and volatile organic compounds (VOCs);
- Laboratory analysis of representative soil vapour samples for a range of COPCs including TRH and VOCs;
- Laboratory analysis of groundwater samples for dissolved heavy metals, TRH, BTEX, VOCs and semi-volatile organic compounds (SVOC); and
- Preparation of a DSI report in general accordance with relevant EPA guidelines.

2. Site Condition and Surrounding Environment

2.1 Site Identification

The site location is shown on **Figure 1**. The site layout and associated cadastral boundaries are shown on **Figure 2**. The site details are summarised in **Table 2.1** and described in detail in the following sections.

Table 2.1 Summary of Site Details

Lot/Deposited Plan (DP)	SP16134, SP22870, Lot 51 DP714323 and Lot B DP321904
Address	253-265 Pacific Highway, North Sydney NSW
Local Government Authority	North Sydney Council
Approximate MGA Coordinates (GDA2020- MGA56)	Easting: 333913.42 Northing: 6254799.10
Site Zoning	B4: Mixed Use under <i>North Sydney Local Environmental Plan (LEP) 2013</i>
Current Use	Mixed use (commercial and residential)
Previous Use	Mixed use (commercial and residential)
Site Area	Approximately 1,100 m ²

2.2 Site Description

A detailed site inspection was completed by a JBS&G trained and experienced environmental consultant on 2 March 2023. A photographic log of the site inspection is presented in **Appendix C**.

The site comprised an approximately rectangular portion of land with property surfaces incorporating concrete pathways and building footprints some with basements. The site is bound by the Pacific Highway, West Street, McLaren Street and Church Lane. The site was accessed off Church Lane, a back lane on the east side of the site which spanned the entire length of the site. The site consisted of four properties, 253, 255-259, 261 and 265 Pacific Highway which were mainly used as residential, commercial, and retail structures.

253 Pacific Highway was a combined residential and commercial brick building.

255-259 and 261 Pacific Highway were commercial buildings with multiple tenants. The buildings included a concrete basement carpark, with basement access from Church Lane.

265 Pacific Highway contained a dilapidated abandoned terrace and shed. The house contained mould on the walls, a broken brick fireplace with scattered bricks surrounding, paint chips on the ground, rotting floorboards and a rusted metal shelf. The shed contained, rusted sheet metal roof, rotting floorboards, scattered bricks and exposed water pipes. The property was not occupied at the time of the site visit by JBS&G.

2.3 Surrounding Landuse

The current land uses of adjacent properties or properties across adjacent roads are summarised below:

- North – The site was bound by 267 Pacific Highway, with West Street located beyond. Further north are commercial buildings including Union Hotel, North Sydney Police station and multistorey office buildings. Mater Hospital and Cammeray High School are located to the northwest of the site.
- East – The site was immediately bound by Church Lane, with residential buildings, the Stanton Library, North Sydney Oval, St Leonards Park and Warringah Freeway located further east of the site.
- South – The site is bound by residential terraces, thence McLaren Street. Further south are multistorey commercial office buildings with ground floor retail stores and cafes, Pacific Highway, hospitality venues e.g., Greenwood Hotel, and North Sydney train station.

- West – The site was bound by the Pacific Highway, with residential properties found beyond. Further west is the North Sydney Demonstration School (southwest), Brennan Park and the train line between Wollstonecraft and Waverton.

No current service stations, waste processing facilities or other industrial type land uses were identified within 500m of the site.

2.4 Natural Site Setting

The environmental setting of the site as outlined in JBS&G (2018) is presented in **Table 2.2**.

Table 2.2 Natural Site Setting Summary

Environmental Aspect	Characteristics
Topography	The sites elevation is approximately 90 to 100 m Australian Height Datum (AHD) sloping downwards from north to south. Regional topography slopes southeast towards Lavender Bay and Neutral Bay of Sydney Harbour.
Hydrology	Rainfall at the site primarily falls onto building rooftops and is captured by gutters/stormwater downpipes prior to discharge into the municipal stormwater system.
Geology	The 1:100,000 Geological Series Sydney Sheet indicates that the site is underlain by Ashfield Shale of the Wianamatta Group which is largely characterised by black to dark grey shale and laminite.
Hydrogeology	Seventeen registered groundwater boreholes were located within 1.5 km radius of the site. Groundwater migration is expected to occur in a southeast direction, towards Sydney Harbour. Groundwater quality beneath the site is expected to be reflective of a highly modified urban environment given the site's location. Sydney Harbour, the potentially receiving water body from stormwater discharges, is considered to be a highly disturbed marine environment given the surrounding catchment and harbour activities.
Acid Sulfate Soils (ASS)	The site exists in an area of 'no known occurrence of acid sulfate soils'.
Soil Landscape	The site is within the residual Blacktown Soil Landscape Group and it is characterised by gently undulating rises, local relief to 30m, slopes are usually <5%, broad rounded crests and ridges with gently inclined slopes. Limitations of the Blacktown Soil Landscapes group include moderately reactive, highly plastic subsoil, low soil fertility and poor soil drainage.

2.5 Summary of Site History

Available records indicate, the site has been used for residential and commercial purposes since the earliest records. Occupational uses of the site were limited to light commercial and residential, with exception of 255-259 Pacific Highway, which was occupied by Bayer Pharma Pty Ltd, a chemical company. Historical title records indicated 267 Pacific Highway was previously the location of a service station/garage. The EPA searches did not indicate that any other industrial activities occurred at, or within close vicinity of, the site. No dangerous goods storage licences were identified to have been issued at the addresses for which permission to undertake searches were obtained.

3. Previous Site Investigation (JBS&G 2018)

JBS&G Australia Pty Ltd (JBS&G) was engaged by Legacy to provide environmental consulting services associated with the Phase 1 Environmental Site Assessment (ESA) of the properties located at 253, 255-259, 261, 265 and 267 Pacific Highway, North Sydney, NSW. The ESA conducted included a review of the site history, detailed site inspection, development of Conceptual Site Model (CSM) and production of the Preliminary Site Investigation (PSI) report. The detailed site inspection indicated that the site was generally free from overt indicators of gross and/or widespread contamination. No visual or olfactory indicators of contamination were observed and, where present, vegetative health appeared to be good. Buildings at the site did not exhibit signs of significant dilapidation.

Historical title records, aerial photographs and North Sydney Council's online records have indicated that the property located at 267 Pacific Highway was formerly used as a service station/garage, and 255-259 Pacific Highway was formerly occupied by Bayer Pharma and car dealership/hire companies. Excavation of basements associated with construction of the current buildings is likely to have resulted in the removal of UPSS infrastructure and shallow soil impacts from the historical activities.

The properties at 253, 261 and 265 are understood to have been residential/commercial with a low potential for them to be impacted by historic use. Notwithstanding the aforementioned, there remains the potential for residual contamination of deeper soils at 267 and 255-259 Pacific Highway or contamination of fill/natural materials downgradient.

A limited Phase 2 Environmental Site Assessment was recommended to characterise the nature and extent of potential contamination resultant from the former land uses of the site.

4. Preliminary Conceptual Site Model (CSM)

4.1 Potential Areas of Environmental Concern

Based on the history review (JBS&G 2018) and observations made during the JBS&G inspection of the site, areas of environmental concern have been identified and are presented in **Table 4.1**.

Table 4.1 Areas of Environmental Concern and Associated Contaminants of Potential Concern

Areas of Environmental Concern (AEC)	Primary Contaminants of Potential Concern (COPC)
267 Pacific Highway (former service station and potential source of offsite contamination migration)	TRH, BTEX, VOCS and heavy metals
255-259 Pacific Highway (Bayer Pharma and car dealership/hire)	TRH, BTEX, VOCS, SVOCs and OCPs
Whole site	Heavy Metals, PAHs, Asbestos, TRH, BTEX, OCPs and PCBs

4.2 Potentially Contaminated Media

Potentially contaminated media present at the site includes:

- Surface/fill soils; and
- Natural soils/bedrock.

Fill and surface soils are considered to be potential impacted media. There is potential for fill material to have been used at the site for levelling activities associated with construction of the site. In addition, surface soils may be impacted by activities associated with former onsite land-uses such as chemical handling, car sales/hire and from nearby offsite sources at 267 Pacific Highway associated with the former service station and/or garage. As such, surface and fill material at the site has been identified as a potentially contaminated medium.

Based on the potential leachability of contaminants within fill material/surface soils and the historical use of the site, vertical migration of contamination from the fill materials/surface soils into the underlying natural soils/rock may have occurred. As such, the natural site soils are considered to be a potentially contaminated medium.

Groundwater at the site is considered not to be a potentially contaminated medium based on the low permeability of the surface soils (clays) (**Section 2.5**), surficial nature of identified AECs, dominant hardstand surfaces, and likely depth to groundwater. There may be some shallow/perched seepage water at the soil/rock interface dependent on rainfall infiltration, however, low permeability soils are considered to mitigate potential leaching of largely surficial contamination if present. Surface water is also not considered a potentially contaminated medium given lack of surface water features on site and distance to nearest surface water bodies. Dewatering may be required during the construction of the basement and for accumulated seepage from the potentially drained basement design. Therefore, confirmatory assessment of groundwater quality has been completed, with the results included herein.

4.3 Potential for Migration from Site

Contaminants where present can migrate from site AECs via a combination of windblown dusts, rainwater infiltration, groundwater migration, and surface water runoff. The potential for contaminants to migrate is a combination of:

- The nature of the contaminants (solid/liquid and mobility characteristics);
- The extent of the contaminants (isolated or widespread);
- The location of the contaminants (surface soils or at depth); and
- The site topography, geology, hydrology and hydrogeology.

The COPC identified as part of the site history review and site inspection are potentially present in solid form (e.g. heavy metals, asbestos etc.) or vapour form (e.g. hydrocarbons).

There is a low potential for infiltration of water and subsequent migration through the soil profile as most of the site is sealed. Further, anticipated low permeability clay soils are likely to mitigate vertical migration through the soil profile to and in groundwater.

Surface water will mainly be intercepted by roof surfaces and be directed to the gutter and/or into stormwater networks along surrounding roads. Therefore, there is likely to be limited exposed soils with COPC that could migrate via surface water.

As mentioned above, groundwater dewatering is potentially proposed during construction and post construction. Therefore, there is potential for discharges to surrounding surface waters depending on the dewatering management selected for the development and an assessment is provided in the following sections.

4.4 Exposure Pathways and Receptors

Potential pathways and receptors of environmental impact within the site which will need to be addressed with respect to potential risks to current and/or future site users include:

- Current and future site users and landowners who may potentially be exposed to COPCs through direct contact with or ingestion of impacted soils and/or inhalation of dusts/fibres associated with impacted soils if disturbed;
- Excavation/construction/maintenance workers conducting activities at the site, who may potentially be exposed to COPCs through direct contact with impacted soils present within excavations and/or inhalation of dusts/fibres associated with impacted soils;
- Conservatively, excavation/construction and/or maintenance workers conducting construction dewatering activities, who may potentially be exposed to COPCs through direct contact with collected groundwater;
- Any flora species to be established on the vegetated areas of the site;
- Existing and/or future users/occupants of adjoining properties should contamination migrate from the site. This is anticipated to be limited to potential contaminant migration via windblown dusts / airborne fibres where surface cover is removed; and
- Aquatic ecosystems and recreational users if dewatered groundwater is discharged to surrounding surface waters via the stormwater network.

4.5 Preferential Pathways

For the purpose of this assessment, preferential pathways have been defined as natural and/or man-made pathways that result in the preferential migration of COPC as either solids (sediments, dust, etc) or liquids (surface water, construction dewatering discharges).

Man-made preferential pathways are likely present throughout the site, generally associated with areas of previously disturbed natural ground present beneath the existing ground surface and unconsolidated fill materials. Fill materials and disturbed natural soils are anticipated to have a higher permeability than the underlying natural soils and/or bedrock.

5. Sampling, Analysis and Quality Plan

5.1 Data Quality Objectives

Data quality objectives (DQOs) were developed for the investigation, as discussed in the following sections.

5.1.1 State the Problem

It is understood that the client requires a DSI to support an application for site redevelopment. The site is proposed to be developed for mixed-use development with retail on ground level, offices on the podium level, and residential above. Underground car parking will be one to two levels below the street.

A DSI was required to determine the suitability of the site for the proposed development.

5.1.2 Identify the Decision

Based on the decision-making process for assessing urban redevelopment sites detailed in EPA (2017), the following decisions must be made:

- Are there any unacceptable risks to likely future on-site receptors?
- Are there any issues relating to background soil concentrations?
- Are there any issues with discharging collected groundwater from dewatering activities?
- Are there any impacts of chemical mixtures?
- Are there any aesthetic issues at the site?
- Is there any evidence of, or potential for, migration of contaminants from the site?
- Is a site management strategy required?

5.1.3 Identify Inputs to the Decision

Inputs identified to provide sufficient data to make the decisions nominated above include:

- Desktop review of historical and current site uses to identify areas of potential concern;
- Detailed site inspection/walkover;
- Physical observations and interpretation of fill and natural material through the collection of soil and soil vapour samples;
- Physical observations and interpretation of groundwater through the collection of samples;
- Development of appropriate assessment criteria for evaluation of site soil, soil vapour and groundwater data; and
- Confirmation that data generated by sampling and analysis are of an acceptable quality to allow reliable comparison to assessment criteria as undertaken by assessment of quality assurance / quality control (QA/QC) as per the data quality indicators (DQIs) established in **Section 5.1.6**.

5.1.4 Define the Study Boundaries

The lateral study boundaries were limited to the proposed development area, as shown on **Figure 2**.

The vertical extent of the soil and soil vapour investigation was to a maximum depth of 0.7 m, the depth of the deepest hand auger completed at the site. Groundwater samples were collected from Douglas Partners Pty Ltd (Douglas Partners) geotechnical boreholes with the maximum depth of 18 m bgs.

Due to the project objectives, seasonality was not assessed as part of this investigation. Data is therefore representative of the timing and duration of the current investigation.

5.1.5 Develop Decision Rules

Analytical data for potentially contaminated media were assessed against NSW EPA endorsed criteria as identified in **Section 6**.

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

Decisions Required to be Made	Decision Rule
<p>1. Are there any unacceptable risk to onsite future receptors?</p>	<p>Analytical data was compared against EPA endorsed criteria. Statistical analysis of the data was completed, where necessary, in accordance with relevant guidance documents, as appropriate, to facilitate the decisions. The criteria in Section 6 were adopted with respect to soil. Either: the reported concentrations were all below the site criteria; Or: no single analyte concentration exceeded 250 % of the adopted site criterion; and the standard deviation of the results was less than 50 % of the site criterion; And: the 95 % UCL of the average concentration for each analyte was below the adopted site criterion. If the statistical criteria stated above were satisfied, the answer to the decision was No. If the statistical criteria were not satisfied, the answer to the decision was Yes.</p>
<p>2. Are there any issues relating to the local area background soil concentrations?</p>	<p>If COPC concentrations in soils exceeded published background concentrations (NEPC 2013), the answer to the decision was Yes. Otherwise, the answer to the decision was No.</p>
<p>3. Are there any issues with discharging collected groundwater from construction dewatering activities?</p>	<p>Analytical data was compared against EPA endorsed criteria. Statistical analysis of the data was completed, where necessary, in accordance with relevant guidance documents, as appropriate, to facilitate the decisions. The criteria in Section 6 were adopted with respect to groundwater. The reported concentrations were all below adopted criteria, and therefore, the answer to the decision was No. If the sample results exceed criteria, the answer to the decision was Yes.</p>
<p>4. Are there any chemical mixtures?</p>	<p>Were there more than one group of contaminants present which increase the risk of harm? If there is, the answer to the decision was Yes. Otherwise, the answer to the decision was No.</p>
<p>5. Are there any aesthetic issues?</p>	<p>If there were any asbestos containing material (ACM) fragments on the ground surface, any unacceptable odours or soil discolouration, or excessive extraneous/foreign/waste materials, the answer to the decision was Yes. Otherwise, the answer to the decision was No.</p>
<p>6. Is there any evidence of, or potential for, migration of contaminants from the site?</p>	<p>Based on assessment results, was there any evidence of, or the potential for, migration of unacceptable contaminant concentrations to migrate from the site? If yes, the answer to the decisions was Yes. Otherwise, the answer to the decision was No.</p>
<p>7. Is a site management strategy required?</p>	<p>Is the answer to any of the above decisions Yes? If Yes, a site management strategy was required. If No, a site management strategy was not required.</p>

5.1.6 Specific Limits on the Decision Errors

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), appropriate DQIs used to assess quality assurance / quality control (QA/QC) and standard JBS&G procedures for field sampling and handling.

To assess the usability of the data prior to making decisions, the data was assessed against pre-determined DQIs for precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS parameters). The acceptable limit on decision error was 95% compliance with DQIs.

The pre-determined DQIs established for the project are discussed below in relation to the PARCCS parameters and are shown 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; and 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.
- **Sensitivity** – expresses the appropriateness of the chosen field and laboratory methods, including the limits of reporting, in producing reliable data in relation to the adopted site assessment criteria.

Table 5.2 Data Quality Indicators

Data Quality Indicators	Frequency	Data Quality Criteria
Precision		
Duplicates (intra laboratory)	1 / 20 samples/media	<50% RPD ¹
Triplicates (Inter laboratory)	1 / 20 samples/media	<50% RPD ¹
Laboratory Duplicates	1 / 20 samples/media	<50% RPD ¹
Accuracy		
Surrogate spikes	All organic samples	70-130% recovery
Laboratory control samples	1 per lab batch	70-130% recovery
Matrix spikes	1 per lab batch	70-130% recovery
Representativeness		
Sampling appropriate for media and analytes	All samples	_ ²
Samples extracted and analysed within holding times.	-	Soil: organics (14 days), inorganics (6 months) Groundwater: 14 days
Laboratory blanks	1 per lab batch	<LOR
Trip spike	1 per lab batch (soil only)	70-130% recovery
Trip blank	1 per lab batch (soil only)	<LOR
Rinsate blank	1 per sampling event/media	<LOR
Comparability		
Standard operating procedures for sample collection & handling	All Samples	All Samples
Standard analytical methods used for all analyses	All Samples	NATA accreditation
Consistent field conditions, sampling staff and laboratory analysis	All Samples	All samples ²
Limits of reporting appropriate and consistent	All Samples	All samples ²
Completeness		
Sample description and COCs completed and appropriate	All Samples	All samples ²
Appropriate documentation	All Samples	All samples ²
Satisfactory frequency and result for QC samples		95% compliance
Data from critical samples is considered valid	-	Critical samples valid
Sensitivity		
Analytical methods and limits of recovery appropriate for media and adopted site assessment criteria	All samples	LOR ≤ site assessment criteria

¹ If the RPD between duplicates is greater than the pre-determined data quality indicator, a judgment will be made as to whether the excess is critical in relation to the validation of the data set or unacceptable sampling error is occurring in the field.

² A qualitative assessment of compliance with standard procedures and appropriate sample collection methods will be completed during the DQI compliance assessment.

5.2 Optimise the Design of Obtaining Data

5.2.1 Soil Sampling Approach and Methodology

Sampling was undertaken at six sample locations, with two soil vapour samples undertaken to meet the NSW *Sampling Design Guidelines, Part 1* (EPA 2022). Access restrictions limited advancement of soil sample locations on a systematic grid and across the whole site. As such, the sample locations were placed as shown on **Figure 3** and are considered representative of the site.

Sampling was completed with a hand auger to maximum 0.7 m for the sample into natural soils, under the supervision of an experienced JBS&G environmental consultant.

Selected soil samples were screened for potential volatile organic compounds (VOCs) using a portable photoionisation detector (PID). During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indicators of contamination were noted, where observed. All soil sampling locations were recorded using a handheld Global Positioning System (GPS) device.

Collected samples were immediately transferred to laboratory supplied sample jars and bags. The sample jars were then transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. For asbestos in soil samples, bags were utilised to collect 500 mL soil samples for asbestos analysis consistent with NEPC (2013). A chain-of-custody (CoC) form was completed and forwarded with the samples to the testing laboratory. Based upon field observations, samples were analysed in accordance with the laboratory schedule provided in **Table 5.3**.

Not all samples collected were analysed. All samples will remain at the primary laboratory for a period of two months for possible future analysis (subject to holding times), if required.

5.2.2 Soil Vapour Sampling Approach and Methodology

To assess the potential for hydrocarbon impact associated with onsite chemical handling, car sales/hire and nearby offsite migration from the former service station/garage at 267 Pacific Highway, JBS&G installed four sub-slab soil vapour probes within accessible locations.

The probes were constructed by drilling a 16-mm diameter core hole through the concrete pavement at each proposed sampling location, followed by installation of a temporary vapour pin to enable vapour sampling.

Sub-slab soil vapour samples were collected from the vapour pins using carbon absorption tubes. Vapour pins were initially screened using a photoionization detector (PID) to provide a line of evidence regarding the likely magnitude of total VOC concentrations at each sampling location.

The vapour pins were leak tested by placing an isopropyl alcohol-soaked rag around the top of the vapour pins and observing PID readings during vapour pin purging. If an increase in PID readings were observed, then the vapour pin was confirmed to be leaking and required re-installation. Upon confirming the pins were adequately sealed, sub-slab soil vapour samples were collected using carbon tubes by drawing 6 L of soil vapour through the carbon tubes using a calibrated air pump. A chain-of-custody form was completed and forwarded with the samples. Samples were analysed in accordance with the laboratory schedule provided in **Table 5.3**.

5.2.3 Groundwater Development and Sample Collection

JBS&G attended site on the 24 and 28 January 2025 to develop three groundwater wells installed by Douglas Partners geotechnical engineers (BH01, BH02 and BH04). BH02 and BH04 were developed on the 24 January 2025, and BH01 was developed on the 28 January 2025. The locations of the Douglas Partners boreholes are shown in **Appendix A**. BH01 was developed after BH02 and BH04 due to slow drilling in the siltstone. The purpose of the groundwater well development was to remove loose sediment and fine particles around the well so that representative groundwater samples could be collected for analysis.

The groundwater purging and sample collection was undertaken as per the sampling guidance provided to Victoria Environment Protection Authority (EPA) *Groundwater Sampling Guidelines*⁴. Groundwater samples were collected from the groundwater wells on the 28 January 2025. Groundwater samples were collected using a low flow sampling method, with a bladder pump. New disposable pump tubing, bladders, filters, and syringes were used for each sampling location.

During groundwater purging, a water quality meter was used to continuously monitoring the following water quality parameters in a flow cell: electrical conductivity (EC); redox potential (Eh); pH; dissolved oxygen (DO); and temperature during purging. Groundwater well volumes were purged prior to groundwater sample collection, with low flow purging occurring until chemical equilibrium was reached. Purging was considered to be complete when the following parameter values were achieved:

- Consecutive EC readings were within 3%;
- Consecutive Eh readings were within 10mV;
- Consecutive DO readings were within 10%; and
- Consecutive pH readings were within 0.5.

A new pair of disposable nitrile gloves were worn during the collection and handling of each new sample. Groundwater samples were stored in insulated storage boxes containing ice, together with the required chain of custody (COC) documentation.

5.2.4 Laboratory Analysis

JBS&G contracted Eurofins Environment Testing (Eurofins) as the primary laboratory and Envirolab Services Pty Ltd (Envirolab) as the secondary laboratory, for the required chemical analyses. Both laboratories were NATA accredited for the required analyses. The analysis schedule is summarised in **Table 5.3**.

⁴ Victoria State Government, February 2022, Groundwater Sampling Guidelines Publication 669.1, <https://www.epa.vic.gov.au/about-epa/publications/669>

Table 5.3 Analytical Schedule

Sample Type	No. Sampling Locations	Analyses (Exc.)
Soil	8 locations	Heavy Metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) – 8 samples Total Recoverable Hydrocarbons (TRH)/Benzene, toluene, ethylbenzene and xylenes (BTEX) – 8 samples Polycyclic aromatic hydrocarbons (PAHs) – 4 samples Asbestos – 4 samples (500 mL per NEPC 2013) + visual Volatile organic compounds (VOCs) – 4 samples Organochlorine Pesticides (OCPs) – 2 samples Polychlorinated biphenyls (PCBs) – 2 samples TCLP - 4 samples
Soil Vapour	4 locations	TRH – 2 samples VOCs – 2 samples Isopropyl – 2 samples
Groundwater	3 locations	Dissolved Heavy Metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) – 3 samples TRH/BTEX – 3 Samples PAHs– 3 samples VOC– 3 samples Semi-volatile Organic Compounds (SVOC) – 3 samples

In addition to the above, for quality assurance/quality control (QA/QC) purposes field duplicate and triplicate water samples were analysed at a rate of 1/20 primary samples. Rinsate samples were obtained from non-disposable sampling equipment, plus a single trip spike and single trip blank submitted for analysis as part of the soil and groundwater sampling events. A field blank was analysed with the soil vapour.

6. Assessment Criteria

6.1 Regulatory Guidelines

Development of site assessment criteria and the associated scope of investigation was undertaken with consideration to aspects of the following guidelines, as relevant:

- *National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended 2013)*, National Environment Protection Council (NEPC 2013);
- *Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme*, 3rd Edition, NSW EPA, 2017 (NSW EPA 2017);
- *Contaminated land guidelines: Consultants reporting on contaminated land*, April 2020 (NSW EPA 2020); and
- *NSW EPA Sampling Design Guidelines, 2022* (NSW EPA 2022).

6.2 Soil Assessment Criteria Selection

As per the decision process for assessment of urban development site (EPA 2017), a set of health and ecological assessment thresholds derived from NEPC (2013) were used for evaluation of site contamination data collected for this assessment. Given the proposed commercial use of the site at ground level with residential apartments above, the analytical results of the investigation were compared to land use criteria for commercial/industrial and high-density residential land use scenarios.

The results of asbestos analysis were assessed in general accordance with NEPC (2013) including WA DOH (2009⁵) guidance. Where there was no NSW EPA endorsed threshold for an individual COPC, the laboratory limit of reporting (LOR) was adopted as an initial screening value for the purposes of this assessment. Consideration was also given to potential aesthetic impacts based on NEPC (2013) guidance.

Relevant guidelines adopted from **Section 6** of Schedule B1 NEPC (2013) are presented in **Table A**.

Health Based Criteria:

- Health Investigation Levels (HILs) for commercial/industrial and residential with minimal opportunities for soil access land use scenario (HIL-D and HIL-B).
- Soil Health Screening Levels (HSLs) for Vapour Intrusion, commercial/industrial and residential with minimal opportunities for soil access land use scenario (HSL D and HSL A/B).

Ecological Criteria⁶:

- Ecological Screening Levels (ESLs) 'commercial/industrial' land use scenario.
- Ecological Investigation Levels (EILs) 'commercial/industrial' land use scenario.

⁵ *Guidelines for the Assessment Remediation and Management of Asbestos-Contaminated Sites in Western Australia*, May 2009. Western Australia Department of Health (WA DOH), (WA DOH 2009)

⁶ On the basis that the ground level will be a commercial land use, only the commercial/industrial ecological criteria has been adopted for this investigation.

CRC CARE (2017⁷) provides alternative ESLs for B(a)P than those provided in NEPC (2013). The alternative ESLs are based on higher reliability, species sensitivity distribution data than was used to calculate the ESLs provided in NEPC (2013). CRC CARE (2017) provides an alternative ESLs for B(a)P for commercial/industrial use of 172 mg/kg. It is noted that upon review of CRC CARE (2017) by NSW Office of Environment and Heritage, Environment Protection Science Branch, adjusted ESLs were derived providing a value of 67 mg/kg for B(a)P, which has been adopted as the B(a)P ESL for the site.

TRH Management Limits

TRH Management limits for consideration of the formation of Light Non-Aqueous Phase Liquids, fire and explosive hazards, and effects on buried infrastructure under the 'urban residential' land use scenario are considered where required after assessment of health and ecological criteria, per NEPC (2013) guidance.

Aesthetics

EPA (2017) requires consideration of aesthetic issues for all land uses. These can include staining, odours, visible ACM, substantial anthropogenic materials. Consideration is given herein to NEPC (2013) guidance on aesthetics in the context of the proposed land uses.

6.3 Soil Vapour Assessment Criteria

The adopted soil vapour investigation/screening levels for commercial/industrial land use scenarios are presented in **Table D**, and are summarised as follows:

- ASC NEPM (2013) HSLs (D) for soil vapour (for TRHs, BTEXN); and
- NEPC (2013) Interim soil vapour HILs for volatile organic chlorinated compounds.

Soil vapour criteria for clay soils were adopted given the predominantly clay site soils. Where there are no NSW EPA endorsed thresholds for individual COPC the laboratory limit of reporting (LOR) was adopted as an initial screening value for the purposes of this assessment.

6.4 Groundwater Field and Analytical Assessment Criteria

The adopted investigation/screening levels for the assessment of groundwater for construction dewatering are presented in **Table F**, and summarised as follows:

Health-Based Assessment – Recreational Waters:

- ADWG (2011) – *Australian Drinking Water Guidelines*. National Health and Medical Research Council, Canberra ACT, Australia. Aesthetic and recreational thresholds have been adopted for assessment of discharges to recreational waters.
- NEPM (2013) – *National Environmental Protection (Assessment of Site Contamination) Measure*, Schedule B(1) Table1A(4), Groundwater Health Screening Levels (HSLs) for vapour intrusion.
 - Recreational (HSL-C) for vapour intrusion pathway with siltstone has been considered (NEPC 2013) given siltstone is the predominantly encountered geology beneath the site. It is noted that criteria is either not set or non-limiting for HSL-C recreational exposure pathways, and therefore HSL-A/B residential exposure pathways has also been presented (siltstone).

Note: Recreational waters are adopted as a proxy to assess construction worker health and safety, as well as for assessment of potential impacts to recreational users in Sydney Harbour.

⁷ Technical Report No. 39 Risk-based management and remediation guidance for benzo(a)pyrene, CRC for Contamination Assessment and Remediation of the Environment, 2017 (CRC CARE 2017)

Aquatic Ecosystems Protection:

- ANZG (2018) - *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT, Australia;
 - For assessment of risk to aquatic ecosystems, the ANZG (2018) trigger values for the 95% and 99% 99% (bio-accumulative compounds) protection of marine species have been adopted for the receiving environment in Sydney Harbour; and
 - It is noted Sydney Harbour is a highly disturbed marine environment, and as such, consideration to lower levels of species protection (i.e. 90 or 80 %) may be given (as applicable) for assessment of suitability of discharge water to the receiving environment, consistent with ANZG (2018) guidance.
- A five-time dilution factor has been applied to analytical concentrations to account for mixing in the receiving environment.
- Physical parameters and aesthetics:
 - Total suspended solids: Landcom (2004) – *Managing Urban Stormwater: Soils and Construction*, 4th Edition (Blue Book). The adopted threshold of 50 mg/L TDS has been adopted.
 - pH and turbidity criteria were adopted from the NSW Government (2006) *Environmental Objectives for Water Quality and River Flow* as an appropriate source of environmental values for the Sydney Harbour and Parramatta River catchment. For estuarine environments a pH of 7.0 to 8.5 is applicable, as well as a turbidity of 0.5 to 10 nephelometric turbidity unit (NTU). 1 mg/L is approximately 3 NTUs.

Sydney Water Acceptance Standards for the 2024-2025 year (Industrial Customers):

- Assessment of ongoing discharge of groundwater to the sewer network post construction as non-domestic discharges.

7. Quality Assurance/Quality Control

An assessment of QA/QC was undertaken by calculation of DQIs for the data generated as part of the assessment activities as outlined in **Section 5.1.6**.

The assessment of data suitability has been assessed against the PARCCS parameters as presented in **Appendix F**.

The field sampling and handling procedures produced QA/QC results which indicate that the soil and soil gas data are 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 of this program were analysed.

On the basis of the results of the field and laboratory QA/QC program, the soil data are of an acceptable quality upon which to draw conclusions regarding the environmental condition of the site.

8. Investigation Results

8.1 Soil Results

Representative samples were collected from 6 locations (BH01, BH02, BH05, BH06, BH09 and BH10) across the site (**Figure 3**) and were analysed for a range of COPCs. The summarised laboratory results are presented in **Tables A to C** and are discussed below. Detailed laboratory reports and chain of custody documentation are provided in **Appendix G**.

8.1.1 Soil Field Observations

The lithology encountered at the site during the field works is summarised below. Detailed logs are included in **Appendix D**. A total of six soil investigation locations were completed by JBS&G on 2 March 2023 for the current investigation.

The ground surface was covered by buildings and concrete pavement. The fill profile encountered below existing ground levels generally comprised brown/dark brown clay or sandy/gravelly clay to a maximum depth of between 0.3 and 0.5 m below ground surface (bgs). The fill was underlain by natural brown clay. Photographs showing the soil profile are included in **Appendix C**.

No odours or staining was observed in the materials sampled.

8.1.2 Heavy Metals

Concentrations were reported below the adopted ecological and human health criteria in all soil samples selected for analysis with the exception of the following:

- Copper with a concentration of 480 mg/kg at BH01_0-0.1 and 1100 mg/kg at BH02_0.1-0.2, exceeding the EIL criterion of 85 mg/kg;
- Lead with a concentration of 2100 mg/kg at BH01_0-0.1 and 4700 mg/kg at BH02_0.1-0.2, exceeding the EIL criterion of 1800 mg/kg and HIL criterion of 1500 mg/kg;
- Nickel with a concentration of 120 mg/kg at BH05_0.2-0.3 (QC20230302), 93 mg/kg at BH06_0.1-0.2 and 230 mg/kg at BH09_0.2-0.3, exceeding the EIL criterion of 55 mg/kg; and
- Zinc with a concentration of 1100 mg/kg at BH01_0-0.1, 2600 mg/kg at BH02_0.1-0.2 and 440 mg/kg at BH10_0.1-0.2, exceeding the EIL criterion of 110 mg/kg.

8.1.3 TRH/BTEX

Concentrations of TRH/BTEX were reported below the adopted human health and ecological criteria in all soil samples selected for analysis. Elevated concentrations above the LOR but below the adopted site criteria were noted at BH01_0-0.1.

8.1.4 PAH

Concentrations of PAH were reported below the adopted human health and ecological criteria in soil samples selected for analysis. Benzo(a)pyrene TEQ at BH02_0.1-0.2 exceeded the adopted human health residential B criteria.

8.1.5 OCPs

Concentrations of OCPs were reported below the adopted human health and ecological criteria in all soil samples selected for analysis.

8.1.6 PCBs

Concentrations of PCBs were reported below the adopted human health and ecological criteria in all soil samples selected for analysis.

8.1.7 VOCs

Concentrations of VOCs were reported below the adopted human health and ecological criteria in all soil samples selected for analysis.

8.1.8 Asbestos

No asbestos was visually identified onsite or detected within the soil samples analysed.

8.1.9 Preliminary Waste Classification

Soil analytical results were compared to EPA (2014) Waste Classification Guidelines criteria for General Soil Waste (GSW) and Restricted Solid Waste (RSW), as presented in **Table B** and **C**.

Chromium (III+IV) was reported at 140 mg/kg at BH05_0.2-0.3 duplicate sample (QC20230302) which exceeded the GSW (100 mg/kg) criteria. The chromium (III+IV) concentration in a TCLP leachate of QC20230302 was reported below the GSW criterion (TCLP1).

Nickel was reported at 120 mg/kg at BH05_0.2-0.3 duplicate sample (QC20230302), 93 mg/kg at BH06_0.1-0.2 and 230 mg/kg at BH09_0.2-0.3 which exceeded the GSW (40 mg/kg) criteria. The nickel concentration in a TCLP leachate of BH09_0.2-0.3 was reported below the GSW criterion (TCLP1).

Benzo(a)pyrene was reported at 6.6 mg/kg at BH02_0.1-0.2 which exceeded the GSW (0.8 mg/kg) criteria. The benzo(a)pyrene concentration in a TCLP leachate of BH02_0.1-0.2 was reported below the GSW criterion (TCLP1).

Multiple locations exceeded the lead GSW (100 mg/kg) criteria. The lead concentration in a TCLP leachate of BH02_0.1-0.2 was reported below the GSW criterion (TCLP1). However, BH01_0-0.1 and BH02_0.1-0.2 exceed the GSW (SCC1) criteria with leachate, and therefore will be required to be removed from site as restricted solid waste.

All other chemical contaminant concentrations were reported below the GSW contaminant thresholds (CT1). Preliminary waste classification analysis indicates that should fill require off-site disposal excluding BH01 and BH02 would be classified as GSW.

Natural undisturbed soils should be able to be classified as Virgin Excavated Natural Material (VENM) if surplus to site requirements.

Soils need only be classified for disposal should they be surplus to site requirements.

8.2 Soil Vapour Results

Soil vapour results are presented in **Table D**. The following sections provide a summary of the analytical results with detailed laboratory certificates provided in **Attachment G**.

8.2.1 Soil Vapour Field Parameters and Observations

The assessment included the advancement of four sub-slab soil vapour points, however two locations were unable to be sampled due to perched water under the slab. Sampled locations (SV01 and SV02), are shown on **Figure 3** and were placed in the vicinity of the potentially contaminating historic site activities. Recorded field measured parameter results are provided in **Table E**.

During purging, oxygen levels were found to be 19.5 % (SV01) and 20.5 % (SV02), and carbon dioxide (CO₂) and methane were not detected in the soil vapour sampling locations. PID screening results of sub-slab vapour sampling points were 3.3 ppm (SV01) and 1.7 ppm (SV02), which are indicative of low levels of volatile organic compounds in soil vapour at the site.

8.2.2 Volatile TRH

Review of results of soil vapour samples indicated that concentrations of volatile TRH were below LOR and site assessment criteria at all locations.

8.2.3 BTEXN

Review of results of soil vapour samples indicated that BTEXN concentrations were all below the LOR and site assessment criteria at all locations.

8.2.4 VOCs

Review of results of soil vapour samples indicated that VOCs concentrations were all below the LOR and site assessment criteria at all locations.

8.3 Groundwater

8.3.1 Douglas Partners Borehole Information

Douglas Partners installed three groundwater wells at the site (BH01, BH02 and BH04) on the 23 January 2025 for geotechnical purposes. The locations of the monitoring wells and draft borehole logs are provided in **Appendix D**. A schematic drawing of the geological profile and the proposed basement level excavation is also shown in **Appendix D**.

A summary of the borehole information including site geological profile, groundwater levels, and groundwater screening interval information is provided in **Table 8-1**.

Table 8-1: Summary of Borehole Information

Borehole ID	Depth of Borehole (m bgs)	Top of Screen (m bgs)	Bottom of Screen (m bgs)	Groundwater Level (m bgs (mRL))	Geological Profile
BH01	18.12	13.0	18.12	5.0 (86.4)	<ul style="list-style-type: none"> Concrete: 50 mm thickness. Fill to 0.4 m bgs: Gravelly sand to sand Ashfield Shale: Top of unit 0.4 m bgs, weathered siltstone with very low strength siltstone bands. Hawkesbury Sandstone: Top of unit 11.43 m bgs, pale grey sandstone with dark-grey siltstone laminations.
BH02	16.0	11.5	16.0	1.3 (86.0)	<ul style="list-style-type: none"> Concrete: 150 mm thickness. Fill to 0.35 m bgs. As above. Clay: Top of unit 0.35 m bgs, with gravel, medium to high plasticity, siltstone gravel Ashfield Shale: Top of unit 0.93 m bgs, description as above. Hawkesbury Sandstone: Top of unit 9.25 m bgs, description as above.
BH04	19.94	5.5	7.45	2.4 (84.3)	<ul style="list-style-type: none"> Concrete: 100 mm thickness. Fill to 0.5 m bgs. As above. Clay: Top of unit 0.5 m bgs, pale grey, high plasticity, extremely weathered material. Ashfield Shale: Top of unit 3.10 m bgs, description as above.

Borehole ID	Depth of Borehole (m bgs)	Top of Screen (m bgs)	Bottom of Screen (m bgs)	Groundwater Level (m bgs (mRL))	Geological Profile
					<ul style="list-style-type: none"> Hawkesbury Sandstone: Top of unit 7.45 m bgs, description as above.

8.3.2 Field Observations and Groundwater Levels

All groundwater gauging results, and measured field parameters, once stabilised after purging, are summarised in **Table 8-2** with relevant calibration records and field notes included in **Appendix E** and **Appendix H** respectively.

The following is noted when comparing the field and physical parameters against relevant criteria:

- No odours or sheens were noted during sample collection.
- The collected water samples were light yellow to brown in two boreholes (BH01 and BH04 respectively).
- Total dissolved solids (TDS) in all samples (range from 305-708 mg/L) and visual observations indicate some potential for solid particulate matter and/or turbidity in the groundwater. TDS in BH02 and BH04 exceeds the Sydney Water standard acceptance criteria without pre-treatment (500 mg/L).
- Dissolved oxygen is typically within natural ranges in groundwater (5-6 mg/L) in BH01 and BH02, however, BH04 presents slightly lower levels of dissolved oxygen (2-3 mg/L).
- The stabilised pH is slightly lower than acceptable ranges for estuaries (pH of 7.0 to 8.5) with a pH range of 5.2 to 6.09 noted in samples. The pH ranges observed do not comply with the Sydney Water acceptance standards (pH 7.0-10) without pre-treatment.

Table 8-2: Summary of Field Observations and Groundwater Levels

Borehole ID	Total Depth (mbtoc)	Depth to Water (mbtoc)*	Temp (°C)**	Dissolved Oxygen (mg/L)	Electrical Conductivity (µs/cm)	Total Dissolved Solids (mg/L)	pH	Redox (mV)	Comments
BH01	18.13	7.13	22.7	6.62	447	305	6.09	40	Light yellow. No odours or sheen
BH02	15.90	0.64	22.4	5.59	864	592	5.92	32.7	Clear. No odours or sheen
BH04	7.41	2.36	32.1	2.89	1238	708	5.29	66.8	Light brown. No odours or sheen

Note:

*mbtoc – metres below the top of well casing.

** Groundwater monitoring was completed during a heat wave in Sydney, with monitoring events completed around mid-day which may have resulted in high recorded groundwater temperatures than normal.

8.3.3 Analytical Results

The results of the groundwater sampling against the assessment criteria are provided in **Table F**, and summarised as follows:

- Dissolved copper, nickel and zinc exceed the 99% ANZG trigger levels for the protection marine species in all samples, including with a five times dilution factor applied.
- Dissolved copper in all samples exceeds the 95% ANZG trigger levels for the protection of marine species (0.0013 mg/L), with 0.005 mg/L in BH01, 0.007 mg/L in BH02 and 0.02 mg/L in BH04 detected respectively. Copper concentrations exceed the 90% ANZG trigger levels (0.003 mg/L) in BH01 and BH02.
- When a five times dilution factor is applied, copper concentrations were below the 95% ANZG trigger levels for the protection of marine species with exception of BH02, which marginally exceeded with a concentration of 0.0014 mg/L.
- Dissolved zinc in all samples exceeds the ANZG 95 % (0.021 mg/L), 90% (0.012 mg/L) and 80% (0.008 mg/L) trigger levels for the protection of marine species, with 0.16 mg/L in BH01, 0.27 mg/L in BH02 and 0.24 mg/L in BH04 detected respectively.
- When a five times dilution factor is applied, zinc concentrations in all samples exceeded the 95%, 90% and 80% ANZG trigger levels, with 0.032 mg/L BH01, 0.054 mg/L in BH02 and 0.048 mg/L in BH04 detected respectively.
- Dissolved nickel concentrations in BH02 (0.091 mg/L) exceed the 95% ANZG trigger levels for the protection of marine species (0.07 mg/L). However, when utilising a five times dilution factor the resulting nickel concentrations (0.018 mg/L) is below the trigger levels.
- Low level detections of TRHs and trihalomethanes were detected in BH01, however, the concentrations are below relevant HSL-C criteria where criteria is available.
- All other analytes were below the laboratory limit of reporting.
- All concentrations were below the ADWG aesthetic, AWDG recreational guidelines and health-based criteria.
- All concentrations are likely to meet with the Sydney Water acceptance standards for industrial customers.

8.3.4 Discussion of Results

Chemical Constituents in Groundwater

The majority of the chemical data for the groundwater samples is below the 95% ANZG trigger levels for the protection of marine species, with the exceptions as noted above related to copper, nickel and zinc concentrations. When applying a dilution factor to account for mixing in the receiving environment, the majority of the levels comply with the 95% ANZG trigger levels with exception of zinc. Low level hydrocarbons and trihalomethanes are also noted.

The site and surrounding area are part of a highly modified urban environment. Stormwater discharge and groundwater flows are expected to be in the direction of Sydney Harbour, which is a highly disturbed marine environment, and as such, consideration to lower levels of species protection is appropriate. The site is currently covered in hardstand surfacing and buildings. Based on the findings of the DSI, there is limited potential for onsite sources of chemical constituents which could result in groundwater contamination, and low permeability would likely mitigate the leaching of onsite contamination.

Sources of zinc in the environment can be attributed to urban sources such as vehicles, urban runoff including from roofs, and discharges from industrial activities. It is likely the zinc in the groundwater is from these sources and representative of background levels in the area. Notably, no criteria levels for zinc are set in the AWDG for recreational waters and concentrations in groundwater meet with the AWDG aesthetic values. When considering a dilution factor, the concentrations are within the same order of magnitude as the 80% ANZG trigger levels for the protection of marine species but remain above the 80% ANZG criteria.

Hydrocarbons and trihalomethanes in BH01 could be attributed to offsite migration sources e.g. urban industrial sources in the surrounding area or residual offsite migration of contaminants associated with the former service station activities at 267 Pacific Highway. In relation to hydrocarbons, the underlying natural shale geology may be a contributor. The low-level detections do not pose a risk to human health and/or are unlikely to pose a risk to aquatic ecosystems.

In terms of chemical analytical data, construction dewatering and ongoing discharges as part of a drained basement are not expected to present an unacceptable risk to human health. However, zinc concentrations exceed the 80% ANZG criteria and therefore consideration should be given to treatment prior to discharge to surface waters via the stormwater network. If groundwater is proposed to be discharged to the sewer network, the concentrations will need to meet applicable Sydney Water standards and/or licence conditions.

Physical Parameters and Groundwater Quality

Groundwater samples collected during this GME are representative of the screened interval in the groundwater wells and may not be representative of pumped groundwater. The physical parameters e.g. pH, TDS, colour observed within the boreholes are likely representative of natural groundwater characteristics within the local geology. There is potential that there are higher solids, salts and sediment present naturally in siltstones, shales and sandstone which is reflected in the visual observations and TDS readings. There is also potential for residual fine sediment to be present from the borehole drilling method deployed which was unable to be cleaned out during well development which could be attributing to higher TDS levels observed. The acidic nature of the pH in the groundwater could be representative of deeper ground conditions with dissolved components present at depth e.g. carbon dioxide, and therefore are more likely representative of natural ground conditions. When groundwater is pumped this may result in changes to the pH from degassing and/or temperature changes.

Based on the GME results, the physical parameters are likely representative of natural subsurface conditions and local geology. The results, however, indicate groundwater may require treatment prior to discharge to surface waters and/or the sewer network. If discharge to either network is proposed, routine performance monitoring and/or sampling with representative water analysed may be required to demonstrate compliance with acceptable discharge criteria and/or standards.

9. Site Characterisation

Section 5.1.5 provides decision rules to determine if contamination is present at the site that may be potentially unacceptable for the proposed development from a health and ecological health perspective. Discussion of each of these points is provided in the following sections.

9.1 Are there any unacceptable risks to likely future onsite receptors?

Lead concentrations at three locations were above the adopted human health criteria. BH01_0-0.1 and BH02_0.1-0.2 were located within the soils at 265 Pacific Highway (heritage building) and the elevated lead levels are likely due to historical use of leaded paint. All other concentrations of COPCs in the sample analysed were below adopted health-based assessment criteria.

Construction dewatering is not expected to present an unacceptable risk to human health.

9.2 Are there any issues relating to background soil concentrations that exceed appropriate site soil criteria?

Soil samples collected from natural soils indicated that metal concentrations were below the background metal concentrations within NEPC (2013). On this basis, there are considered to be no outstanding issues in relation to local area background soil conditions that require further consideration.

9.3 Are there any issues with discharging collected groundwater from construction dewatering activities?

Based on the sample completed on the 23 January 2025, the following has been identified:

- Zinc typically exceeds the 80% ANZG trigger levels of the protection of marine species, including consideration of mixing in the environment. While zinc is considered to be reflective of background groundwater levels in a highly modified urban environment, groundwater may require treatment if discharged to surface water is proposed.
- Low level detection of hydrocarbon and trihalomethanes were identified in BH01, and these are considered to be reflective of migration from offsite industrial sources and/or in the case of hydrocarbons from natural shale sources overlying the sandstone. These chemical constituents are not considered to pose an unacceptable risk to future site occupants, aquatic ecosystems or the recreational waters of Sydney Harbour.
- Physical parameters in groundwater samples exceed typical aesthetic and aquatic ecosystem guideline values. However, the field observations are considered to be reflective of natural subsurface conditions and may not be fully representative of groundwater encountered during construction activities. Based on current results, treatment may be required for pH and suspended solids, with further sampling post-treatment to demonstrate compliance against applicable criteria if stormwater discharge is proposed.
- While chemical analytical data indicates groundwater discharges are likely to meet with Sydney Water standards, the physical parameters indicate pre-treatment of groundwater may be required. Acceptance and potential pre-treatment requirements should be confirmed with Sydney Water.

Groundwater does not pose a risk to human health, however depending on the disposal method may require treatment prior to discharge to meet acceptance criteria. As noted above, groundwater management may be required during construction and post construction for the management of discharges. Options for managing dewatering include:

- Onsite treatment of collected groundwater with a routine performance monitoring and/or sampling to ensure dewatering activities do not impact surrounding surface waters (if treated water is proposed to be discharged via the stormwater network);
- Disposal of groundwater with a trade waste contractor and/or to the sewer system with appropriate approvals; and/or
- During construction, re-use of dewatered water onsite for dust suppression (depending on the volume collected) can be considered.

The management requirements should be addressed in a construction management plan for construction discharges and a post construction management plan for ongoing seepage discharges (prepared by others). Appropriate approvals under the Water NSW Act 2014 may be required for dewatering activities during construction and post construction.

9.4 Are there any impacts of chemical mixtures?

There were no potential chemical mixtures identified during the investigation that may increase the risk of harm at the site or require special management.

9.5 Are there any aesthetic issues at the site?

Limited anthropogenic material was observed during the investigation; Asbestos, staining and odours were not observed at the site at the time of the investigation.

9.6 Is there any evidence of, or potential for, migration of contaminants from the site?

The potential for migration of COPCs from the site is considered to be low based upon the low concentrations of COPCs in soil. The soil vapour assessment conducted in the vicinity of the potentially contaminating historic activities recorded all concentrations below the limit of reporting, therefore there is no identified migration of contamination via vapour.

The elevated metals concentrations are associated with fill soils and due to the capped nature of the site do not pose an off-site migration risk, except during excavation works.

As noted above, collected groundwater during construction dewatering is likely to require treatment if discharge to the stormwater network is proposed.

9.7 Is a site management strategy required?

Due to the shallow contaminated fill material identified at the site a Remedial Action Plan (RAP) will be required to make the site suitable for the proposed development.

10. Conclusions and Recommendations

10.1 Conclusions

Based on the findings of this assessment and subject to the limitations in **Section 11**, it is concluded that the site can be made suitable for the proposed mixed-use commercial/residential development with the implementation of a RAP for the identified shallow impacted fill materials.

10.2 Recommendation

A Remedial Action Plan (RAP) is required to manage the contamination identified within the shallow fill material at site. Due to the age of the buildings, a Hazardous Buildings Survey would be recommended prior to work at 253 and 265 Pacific Highway.

As noted above, during construction and post construction dewatering activities appropriate management procedures outlined in construction and post construction management plans are required. Options for disposal of groundwater are provided in **Section 9.6** above. Appropriate approvals under the Water NSW Act 2014 may be required for dewatering activities during construction and post construction for ongoing discharges.

11. 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 report has been prepared specifically for the client for the purposes of the commission, and no warranties, express or implied, are offered to any third parties and no liability will be accepted for use or interpretation of this report by any third party.

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. This report should not be amended in any way without prior approval by JBS&G, or reproduced other than in full including all attachments as originally provided to the client by JBS&G.

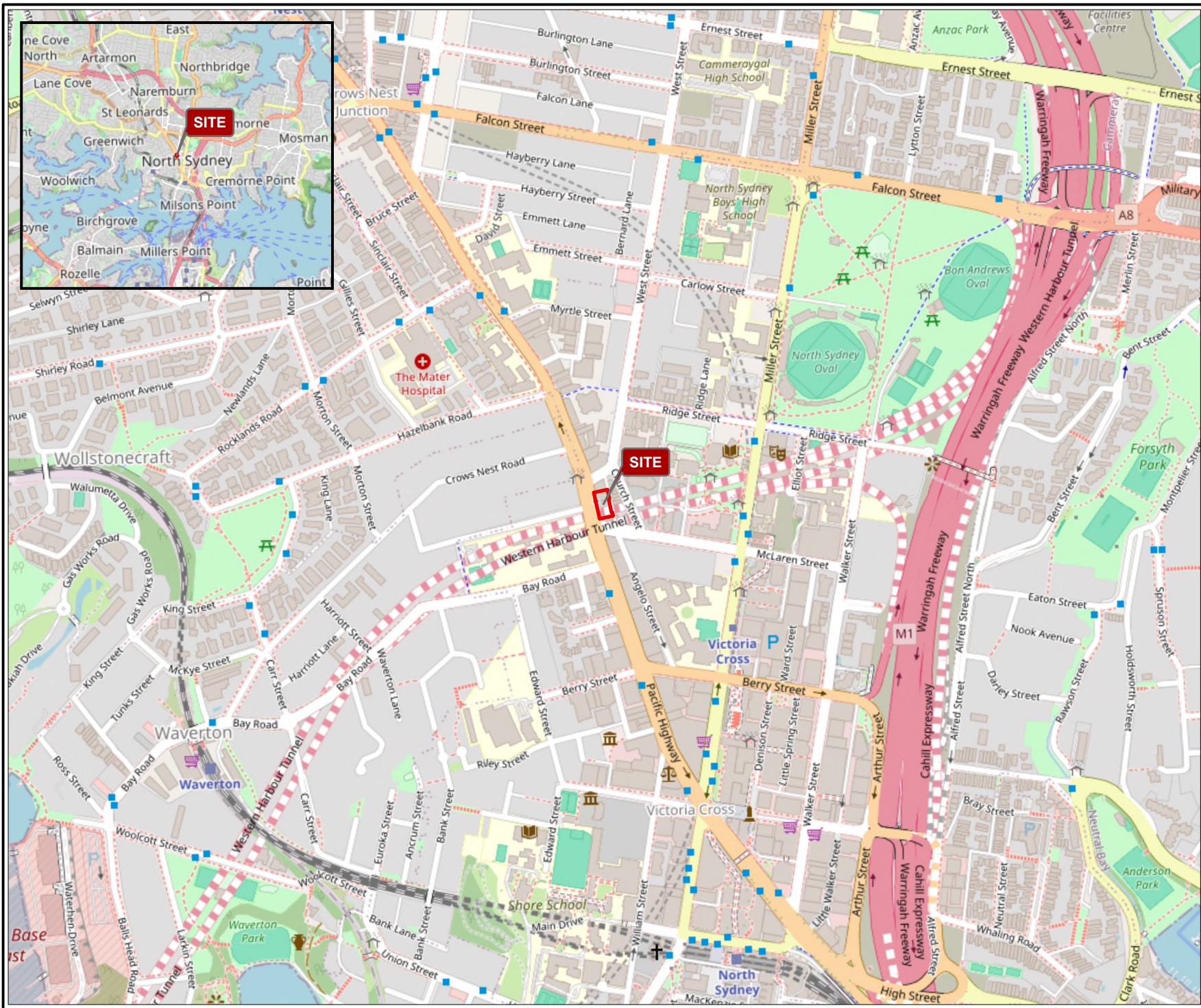
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the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


Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. 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 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.


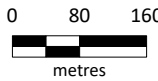
This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the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

Appendix A Figures



Legend
 Approximate Site Boundary



Job No: 68635	
Client: Legacy	
Version: R01 Rev 0	Date 17/02/2025
Drawn By: HW	Checked By: TB
Scale 1:9,000	
	

Coord. Sys. GDA 1994 MGA Zone 56

**253-265 Pacific Highway,
 North Sydney, NSW**

SITE LOCATION

FIGURE 1

File Name: 68635_NorthSydneyGMEDSIRAP_R01_Rev0
 Reference: © OpenStreetMap (and) contributors, CC-BY-SA



- Legend
- Approximate Site Boundary
 - NSW Cadastre



Job No: 68635

Client: Legacy

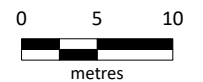
Version: R01 Rev 0

Date 17/02/2025

Drawn By: HW

Checked By: TB

Scale 1:500



Coord. Sys. GDA 1994 MGA Zone 56

253-265 Pacific Highway,
North Sydney, NSW

SITE LAYOUT

FIGURE 2



- Legend
- Approximate Site Boundary
 - NSW Cadastre
 - Sample Locations (JBS&G, 2023)
 - Borehole Location
 - Borehole/Soil Vapour Location



Job No: 68635

Client: Legacy

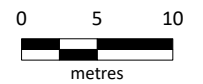
Version: R01 Rev 0

Date 17/02/2025

Drawn By: HW

Checked By: TB

Scale 1:500

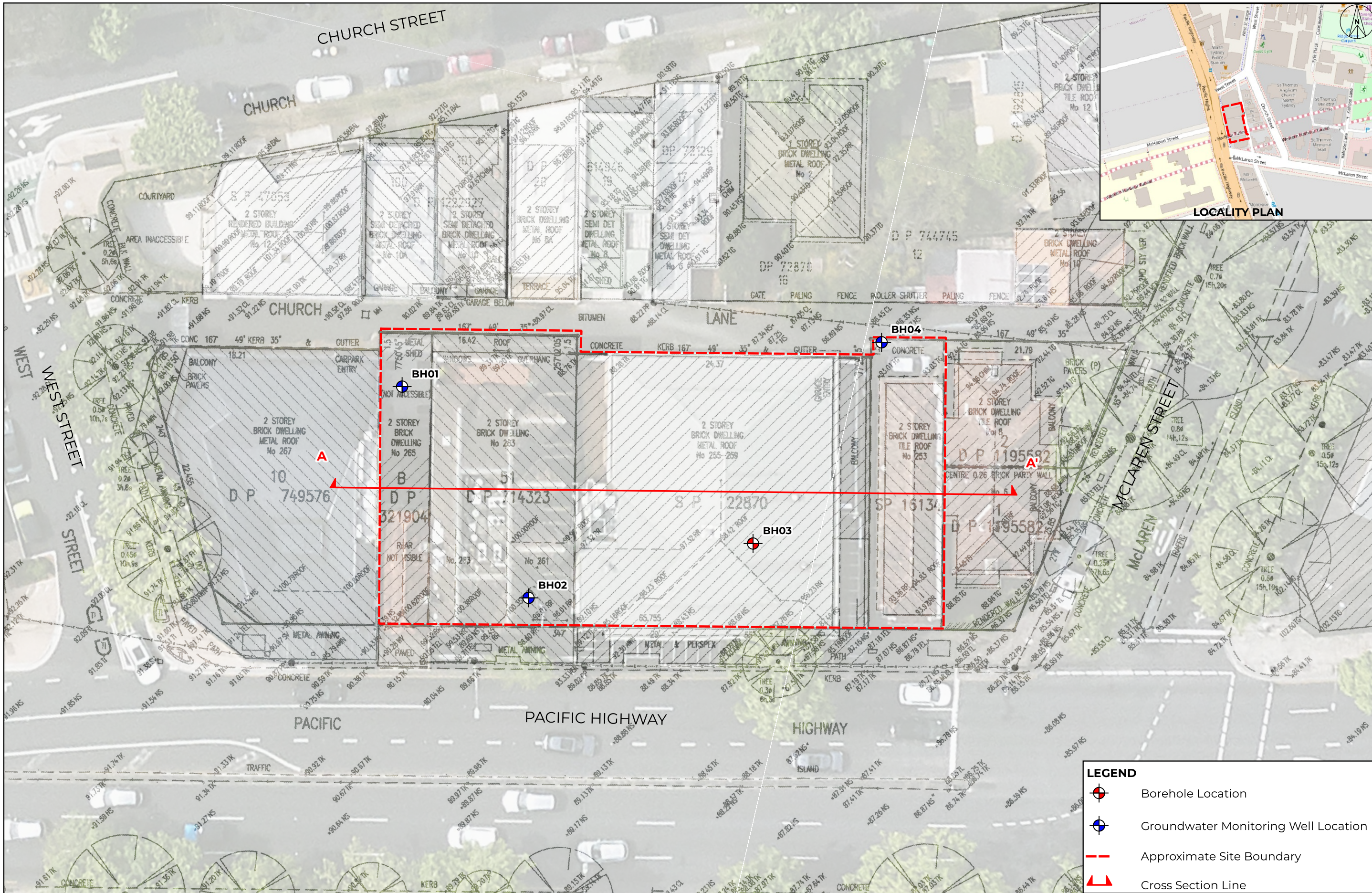


Coord. Sys. GDA 1994 MGA Zone 56

**253-265 Pacific Highway,
North Sydney, NSW**

SAMPLE LOCATIONS

FIGURE 3



LEGEND	
	Borehole Location
	Groundwater Monitoring Well Location
	Approximate Site Boundary
	Cross Section Line

REV	DESCRIPTION/COMMENT	DATE	DRAWN BY
0	Initial Issue	03.02.2025	MN

SCALE: 0 4 8 12 16 m
1:300 @ A3

OFFICE: SYDNEY
96-98 Hermitage Rd, West Ryde NSW 2114
(02)9809 0666

CLIENT:
Legacy Property Pty Ltd

NOTE:
1: Basemap from Metromap (Dated 22.09.2024)
2: Base Survey Plan from Linker surveying, Reference 170713, Issue3 (Dated 14.08.2017)
3: Location of BH01, BH02 and BH03 estimated using measuring tape from lot boundaries.

COORDINATE REFERENCE SYSTEM: GDA2020 / MCA zone 56

PROJECT NAME:
Proposed Mixed Use Development

PROJECT ADDRESS:
253-265 Pacific Highway, North Sydney

DRAWING TITLE:
Test Location Plan

PROJECT NO:
233323.00

DRAWING NO:
1

REVISION:
0

\\dps\dmas02\Projects\233323.00 - NORTH SYDNEY, 253-265 Pacific Highway\70 Drawings\7.3. QGIS\233323.00.dwg

Appendix B Summary Tables

Table A: Soil Analytical Data Summary

Project Number: 64150

Project Name: North Sydney DSI



	Metals & Metalloids								TPHs (NEPC 1999)					TRHs (NEPC 2013)						BTEXN													
	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene_VOC	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	5	5	5	0.1	5	5	20	20	50	50	50	20	50	100	100	100	20	50	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
NEPM 2013 Table 1B(1-5) Generic EIL - Comm/Ind	160		310	85	1800		55	110																		370							
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil															2500	6600			215	170	95	135	185			95						67	
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil														800	1000	5000	10000																
NEPM 2013 Table 7 Comm/Ind D Soil HSL for Asbestos in Soil																																	
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																			50	280	0.7	480	NL			110	5						
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																			310	NL	4	NL	NL			NL	NL						
NEPM 2013 Table 1A(1) HILs Res B Soil	500	150	500	30000	1200	120	1200	60000																									
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil	3000	900	3600	240000	1500	730	6000	400000																									

Sample ID	Lab Report Number	Date	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene_VOC	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	
BH01_0-0.1	968779	2/03/2023	6.7	0.5	15	480	2100	0.4	7.5	1100	<20	<20	210	140	350	<20	<50	300	<100	300	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	-	-	-	-	-	
BH02_0.1-0.2	968779	2/03/2023	34	5.5	48	1100	4700	1.3	34	2600	<20	<20	330	250	580	<20	<50	540	190	730	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	1.3	6	6.6	
BH05_0.2-0.3	968779	2/03/2023	3.8	<0.4	120	42	13	<0.1	100	91	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<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
QA20230302	317874	2/03/2023	<4	<0.4	43	27	10	<0.1	36	29	<25	<50	<100	<100	<50	<25	<50	<100	<100	<50	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.5	
QC20230302	968779	2/03/2023	3.2	<0.4	140	37	6.3	<0.1	120	93	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
BH06_0.1-0.2	968779	2/03/2023	37	<0.4	25	58	25	<0.1	93	48	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	-	-	-	-	-	
BH09_0.2-0.3	968779	2/03/2023	<2	<0.4	53	65	<5	<0.1	230	88	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
BH10_0.1-0.2	968779	2/03/2023	6.8	0.5	15	62	400	<0.1	32	440	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	-	-	-	-	-	
BH11_0-0.1	968779	2/03/2023	20	0.5	21	80	510	0.2	7.6	550	<20	<20	160	120	280	<20	<50	220	100	320	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5		
BH12_0-0.1	968779	2/03/2023	8.3	1.2	30	62	2200	0.5	10	2800	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	-	-	-	-	-	

Table B: Waste Classification Summary

Project Number: 64150

Project Name: North Sydney DSI



	Metals & Metalloids								TPHs (NEPC 1999)					TRHs (NEPC 2013)						BTEXN													
	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene_VOC	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	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	5	5	5	0.1	5	5	20	20	50	50	50	20	50	100	100	100	20	50	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
NSW 2014 General Solid Waste CT1 (Without Leachate)	100	20	100		100	4	40		650				10000								10	288	600			1000							0.8
NSW 2014 General Solid Waste SCC1 (With Leachate)	500	100	1900		1500	50	1050		650				10000								18	518	1080			1800							10
NSW 2014 Restricted Solid Waste CT2 (Without Leachate)	400	80	400		400	16	160		2600				40000								40	1152	2400			4000							3.2
NSW 2014 Restricted Solid Waste SCC2 (With Leachate)	2000	400	7600		6000	200	4200		2600				40000								72	2073	4320			7200							23

Sample ID	Lab Report Number	Date	Arsenic	Cadmium	Chromium (III+VI)	Copper	Lead	Mercury	Nickel	Zinc	C6-C9 Fraction	C10-C14 Fraction	C15-C28 Fraction	C29-C36 Fraction	C10-C36 Fraction (Sum of Total)	C6-C10	C10-C16	C16-C34	C34-C40	C10-C40 (Sum of total)	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene (o)	Xylene (m & p)	Xylene Total	Naphthalene_VOC	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	
BH01_0-0.1	968779	2/03/2023	6.7	0.5	15	480	2100	0.4	7.5	1100	<20	<20	210	140	350	<20	<50	300	<100	300	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	-	-	-	-	-	
BH02_0.1-0.2	968779	2/03/2023	34	5.5	48	1100	4700	1.3	34	2600	<20	<20	330	250	580	<20	<50	540	190	730	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	1.3	6	6.6	
BH05_0.2-0.3	968779	2/03/2023	3.8	<0.4	120	42	13	<0.1	100	91	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<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
QA20230302	317874	2/03/2023	<4	<0.4	43	27	10	<0.1	36	29	<25	<50	<100	<100	<50	<25	<50	<100	<100	<50	<25	<50	<0.2	<0.5	<1	<1	<2	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05
QC20230302	968779	2/03/2023	3.2	<0.4	140	37	6.3	<0.1	120	93	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<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
BH06_0.1-0.2	968779	2/03/2023	37	<0.4	25	58	25	<0.1	93	48	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	-	-	-	-	-	
BH09_0.2-0.3	968779	2/03/2023	<2	<0.4	53	65	<5	<0.1	230	88	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<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
BH10_0.1-0.2	968779	2/03/2023	6.8	0.5	15	62	400	<0.1	32	440	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	-	-	-	-	-	
BH11_0-0.1	968779	2/03/2023	20	0.5	21	80	510	0.2	7.6	550	<20	<20	160	120	280	<20	<50	220	100	320	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
BH12_0-0.1	968779	2/03/2023	8.3	1.2	30	62	2200	0.5	10	2800	<20	<20	<50	<50	<50	<20	<50	<100	<100	<100	<20	<50	<0.1	<0.1	<0.1	<0.1	<0.2	<0.3	<0.5	-	-	-	-	-	

Table C: Leachate Data Summary

Project Number: 64150

Project Name: North Sydney DSI



	Metals & Metalloids			PAH
	Chromium (III+VI)	Lead	Nickel	Benzo(a)pyrene
	mg/L	mg/L	mg/L	mg/L
EQL	0.05	0.01	0.01	0.001
NSW 2014 General Solid Waste TCLP1 (With Leachate)	5	5	2	0.04
NSW 2014 Restricted Solid Waste TCLP2 (with Leachate)	20	20	8	0.16

Sample ID	Date	Lab Report Number				
BH02_0.1-0.2	2/03/2023	971316	-	4	-	<0.001
BH09_0.2-0.3	2/03/2023	971316	-	-	0.12	-
QC20230302	2/03/2023	971316	<0.05	-	-	-

Table D: Soil Vapour Analytical Data Summary

Project Number: 64150

Project Name: North Sydney DSI



	TRHs (NEPC 2013)				BTEXN				PAH					
	C6-C10 mg/m3	C10-C16 mg/m3	F1 (C6-C10 minus BTEX) mg/m3	F2 (C10-C16 less Naphthalene) mg/m3	Benzene mg/m3	Toluene mg/m3	Ethylbenzene mg/m3	Xylene Total mg/m3	Naphthalene mg/m3	1,1,1,2-tetrachloroethane mg/m3	1,1,1-trichloroethane mg/m3	1,1,2,2-tetrachloroethane mg/m3	1,1,2-trichloroethane mg/m3	1,1-dichloroethane mg/m3
EQL	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571
NEPM 2013 Table 1A(2) Comm/Ind D Soil Vap VOCC HILs											230			
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Clay			1000	800	5	6500	1800	1200	4					

Sample ID	Date	Lab Report Number	<0.0714285714	<2.857142857	<0.0714285714	<0.0714285714	<0.0714285714	<2.857142857	<1.428571429	<0.0714285714	<0.7142857143	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714
SV01	2/03/2023	968779	<0.0714285714	<2.857142857	<0.0714285714	<0.0714285714	<0.0714285714	<2.857142857	<1.428571429	<0.0714285714	<0.7142857143	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714
SV02	2/03/2023	968779	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.2142857143	<0.0714285714	<0.0714285714	<2.857142857	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714

Table D: Soil Vapour Analytical Data Summary

Project Number: 64150

Project Name: North Sydney DSI



	d Alkenes					MAH								
	cis-1,3-dichloropropene	Tetrachloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	isopropylbenzene
	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3	mg/m3
EQL	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571
NEPM 2013 Table 1A(2) Comm/Ind D Soil Vap VOCC HILs		8		0.08	0.1									
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Clay														

Sample ID	Date	Lab Report Number															
SV01	2/03/2023	968779	<0.0714285714	<2.857142857	<2.857142857	<0.2142857143	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714
SV02	2/03/2023	968779	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<2.857142857	<2.857142857	<2.857142857	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714

Table D: Soil Vapour Analytical Data Summary

Project Number: 64150

Project Name: North Sydney DSI



	Miscellaneous Hydrocarbons		Chlorinated Benzenes					Trihalomethanes				Organic Alcohols	Chlorinated Hydrocarbons	
	1,2-dibromoethane mg/m3	Dibromomethane mg/m3	1,2,3-trichlorobenzene mg/m3	1,2,4-trichlorobenzene mg/m3	1,2-Dichlorobenzene mg/m3	1,3-dichlorobenzene mg/m3	1,4-dichlorobenzene mg/m3	Chlorobenzene mg/m3	Dibromochloromethane mg/m3	Chloroform mg/m3	Tribromomethane mg/m3	Bromodichloromethane mg/m3	2-Propanol mg/m3	Hexachlorobutadiene mg/m3
EQL	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571	0.071428571
NEPM 2013 Table 1A(2) Comm/Ind D Soil Vap VOCC HILs														
NEPM 2013 Table 1A(5) Comm/Ind D Soil Vapour HSL for Vapour Intrusion, Clay														

Sample ID	Date	Lab Report Number	1,2-dibromoethane	Dibromomethane	1,2,3-trichlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	2-Propanol	Hexachlorobutadiene
SV01	2/03/2023	968779	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714
SV02	2/03/2023	968779	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714	<1.428571429	<0.0714285714	<0.0714285714	<0.0714285714	<0.0714285714

Table E: Soil Vapour Parameters

Project Number: 63356

Project Name: Military Rd Neutral Bay



Location	Oxygen (%)	Methane (%)	Carbon Dioxide (%)	PID (ppm)
SV01	19.5	0	0	3.3
SV02	20.5	0	0	1.7



	Chlorinated Benzenes								Trihalomethanes				Herbicides & Fungicides		Phthalates				Nitrobenzenes		Nitrotoluenes	Anilines		Organic Sulfur Compounds	Chlorinated Hydrocarbons			
	1,2,3-trichlorobenzene	1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3,5-trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Pentachlorobenzene	Dibromochloromethane	Chloroform	Trichloromethane	Bromodichloromethane	Pronamide	Trifluralin	Bis(2-ethylhexyl) phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Nitrobenzene	Pentachlorocyclopentadiene	2,4-dinitrotoluene	p-Nitroaniline	Aniline	Carbon disulfide	Hexachlorocyclopentadiene	Heachlorobutadiene
EQL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADWG (2011) Aesthetic - Updated March-2021	0.005	0.005	0.005	0.001	0.005	0.001	0.001	0.001	0.005	0.001	0.005	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.001	0.005	0.005	
ADWG (2011) Health x 10 (Recreational) - Updated March-2021	-	-	-	0.001	-	0.02	0.0003	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ANZG (2018) Marine water 80% toxicant DGVs	-	0.009	0.24	-	0.03	-	-	0.19	0.005	-	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ANZG (2018) Marine water 90% toxicant DGVs	-	0.007	0.14	-	0.02	-	-	0.1	0.0025	-	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ANZG (2018) Marine water 95% toxicant DGVs	-	0.005	0.08	-	0.013	-	-	0.055	0.002	-	0.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ANZG (2018) Marine water 99% toxicant DGVs	-	0.003	0.02	-	0.008	-	-	0.015	0.0015	-	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Sand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEPM 2013 Table 1A(4) Res HSL A/B GW for Vapour Intrusion, Sand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sydney Water Trade Waste Acceptance Criteria (Industrial 2024-2025 Standards)	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Field ID	Matrix Type	Date	Lab Report Number	1,2,3-trichlorobenzene	1,2,4,5-tetrachlorobenzene	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3,5-trichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Pentachlorobenzene	Dibromochloromethane	Chloroform	Trichloromethane	Bromodichloromethane	Pronamide	Trifluralin	Bis(2-ethylhexyl) phthalate	Diethylphthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Nitrobenzene	Pentachlorocyclopentadiene	2,4-dinitrotoluene	p-Nitroaniline	Aniline	Carbon disulfide	Hexachlorocyclopentadiene	Heachlorobutadiene
BH01	Water	28 Jan 2025	1181514	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	0.001	0.044	<0.001	0.008	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH02	Water	28 Jan 2025	1181514	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH04	Water	28 Jan 2025	1181514	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
QA01	Water	28 Jan 2025	1181514	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
RINSATE	Water	28 Jan 2025	1181514	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
TB	Water	28 Jan 2025	1181514	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TS	Water	28 Jan 2025	1181514	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH01	Water	Five times dilution factor		<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	0.000	0.009	<0.001	0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH02	Water	Five times dilution factor		<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
BH04	Water	Five times dilution factor		<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.005	<0.001	<0.005	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
RPD	Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Environmental Standards
 ANZG, 2018, ANZG (2018) Marine water 80% toxicant DGVs
 ANZG, 2018, ANZG (2018) Marine water 90% toxicant DGVs
 ANZG, 2018, ANZG (2018) Marine water 95% toxicant DGVs
 ANZG, 2018, ANZG (2018) Marine water 99% toxicant DGVs

Appendix C Photographic Log

PHOTO 1: 253 PACIFIC HIGHWAY, FACING WEST



PHOTO 2: 253 PACIFIC HIGHWAY BH10 LOCATION, FACING NORTHWEST



PHOTO 3: 255-259 PACIFIC HIGHWAY, FACING NORTHWEST



PHOTO 4: 261 PACIFIC HIGHWAY, FACING WEST



Job No: 64150

Client: Legacy Properties

Version: R01 Rev 0

Date: 13/03/2023

Drawn By: MS

Checked By: AS

Not to Scale

Coord. Sys n/a

253, 255-259 and 261 Pacific Highway, North Sydney, NSW

PHOTO 5: 265 PACIFIC HIGHWAY, FACING WEST



PHOTO 6: 265 PACIFIC HIGHWAY REAR ENTRY, FACING NORTHWEST



PHOTO 7: 267 PACIFIC HIGHWAY SHOP FRONT, FACING SOUTHWEST



PHOTO 8: 267 PACIFIC HIGHWAY GARAGE, FACING WEST



Job No: 64150

Client: Legacy Properties

Version: R01 Rev 0

Date: 13/03/2023

Drawn By: MS

Checked By: AS

Not to Scale

Coord. Sys n/a

**265 and 267 Pacific Highway,
North Sydney, NSW**

ATTACHMENT A

PHOTO 9: 6-8 MCLAREN STREET, FACING WEST



PHOTO 10: 6-8 MCLAREN STREET AT BH12 LOCATION, FACING WEST



PHOTO 11: 6-8 MCLAREN STREET GARDEN BED, FACING EAST



PHOTO 12: 6-8 MCLAREN STREET PEBBLE AND BRICK PATHWAY, FACING NORTH



Job No: 64150

Client: Legacy Properties

Version: R01 Rev 0

Date: 13/03/2023

Drawn By: MS

Checked By: AS

Not to Scale

Coord. Sys n/a

**6-8 McLaren Street,
North Sydney, NSW**

ATTACHMENT A

PHOTO 13: FILL AT BH12



PHOTO 14: FILL AT BH06



PHOTO 15: NATURAL CLAY AT BH09

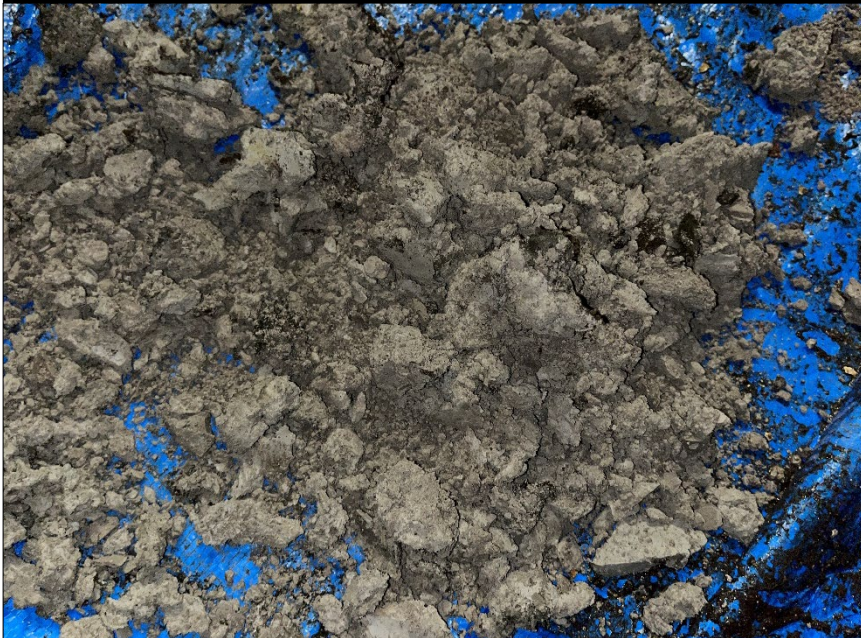


PHOTO 16: NATURAL CLAY AT BH11



Job No: 64150

Client: Legacy Properties

Version: R01 Rev 0

Date: 13/03/2023

Drawn By: MS

Checked By: AS


Not to Scale

Coord. Sys n/a

253-267 Pacific Highway and 6-8 McLaren Street, North Sydney, NSW

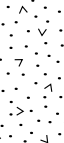

Appendix D Bore Logs

Project Number 64150 Client Legacy Property Group Project Name North Sydney DSI Address 253-267 Pacific Highway and 6-8 McLaren Street, North Sydney, NSW	Contractor Date 02-Mar-23 Plant N/A Method Hand Auger	Easting N/A Northing N/A Coordinate System GDA94_MGA_zone_56 Logged By AC
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Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05		Fill	Fill - Clay, brown, heterogeneous: dry, non-plastic, soft. Inclusions of timber, gravels, brick fragments.	DR	BH01_0.00-0.10	2.9	No odours, staining or asbestos
		0.1			Refusal Depth at: 0.10 m.				
		0.15							
		0.2							
		0.25							
		0.3							
		0.35							
		0.4							
		0.45							
		0.5							
		0.55							
		0.6							
		0.65							
		0.7							
		0.75							
		0.8							
		0.85							
		0.9							
		0.95							

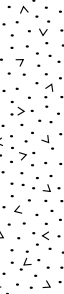


Comments:

Project Number 64150 Client Legacy Property Group Project Name North Sydney DSI Address 253-267 Pacific Highway and 6-8 McLaren Street, North Sydney, NSW	Contractor Date 02-Mar-23 Plant N/A Method Hand Auger	Easting N/A Northing N/A Coordinate System GDA94_MGA_zone_56 Logged By AC
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Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05		Concrete	Fill - CONCRETE				No odours, staining or asbestos
		0.1		Fill	Fill - Clay, dark brown, heterogeneous: damp, medium plasticity, firm. Inclusions of brick fragments, gravels, tree roots, nail.	DP	BH02_0.10-0.20	2.2	No odours, staining or asbestos
		0.2			Refusal Depth on clay pipe at: 0.20 m.				
		0.25							
		0.3							
		0.35							
		0.4							
		0.45							
		0.5							
		0.55							
		0.6							
		0.65							
		0.7							
		0.75							
		0.8							
		0.85							
		0.9							
		0.95							

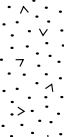



Comments:

Project Number 64150 Client Legacy Property Group Project Name North Sydney DSI Address 253-267 Pacific Highway and 6-8 McLaren Street, North Sydney, NSW	Contractor Date 02-Mar-23 Plant N/A Method Hand Auger	Easting N/A Northing N/A Coordinate System GDA94_MGA_zone_56 Logged By AC
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Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05		Concrete	Fill - CONCRETE				No odours, staining or asbestos
		0.1							
		0.15							
		0.2		Fill	Fill - Sandy gravelly clay, dark brown, heterogeneous, moist, high plasticity, firm	M	BH05_0.20-0.30	4.7	No odours, staining or asbestos
		0.25							
		0.3		CH-GC	Natural - Clay, dark brown, homogeneous, damp, high plasticity, firm	DP			No odours, staining or asbestos
		0.35							
		0.4							
		0.45							
		0.5							
		0.55					BH05_0.50-0.60	3.6	
		0.6			Termination Depth at: 0.60 m.				
		0.65							
		0.7							
		0.75							
		0.8							
		0.85							
		0.9							
		0.95							




Comments:

Project Number 64150 Client Legacy Property Group Project Name North Sydney DSI Address 253-267 Pacific Highway and 6-8 McLaren Street, North Sydney, NSW	Contractor Date 02-Mar-23 Plant N/A Method Hand Auger	Easting N/A Northing N/A Coordinate System GDA94_MGA_zone_56 Logged By AC
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Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations	
HA		0.05		Concrete	Fill - CONCRETE				No odours, staining or asbestos	
		0.1		Fill	Fill - Sandy clay, dark brown, heterogeneous, moist, high plasticity, firm	M	BH06_0.10-0.20	3.1	No odours, staining or asbestos	
		0.2		Fill	Fill - Clay, brown, heterogeneous, damp, high plasticity, firm	DP	BH06_0.20-0.30	2.6	No odours, staining or asbestos	
		0.3		CH	Natural - Clay, brown, homogeneous, damp, high plasticity, stiff	DP				No odours, staining or asbestos
		0.5					BH06_0.50-0.60	2.9		
		0.6			Termination Depth at: 0.60 m.					
		0.65								
		0.7								
		0.75								
		0.8								
		0.85								
		0.9								
		0.95								

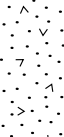

Comments:

Project Number 64150 Client Legacy Property Group Project Name North Sydney DSI Address 253-267 Pacific Highway and 6-8 McLaren Street, North Sydney, NSW	Contractor Date 02-Mar-23 Plant N/A Method Hand Auger	Easting N/A Northing N/A Coordinate System GDA94_MGA_zone_56 Logged By AC
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Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05		Concrete	Fill - CONCRETE				No odours, staining or asbestos
		0.1							
		0.15		Fill	Fill - Clay, dark brown, heterogeneous, moist, high plasticity, firm. Inclusions of trace gravels.	M	BH09_0.20-0.30	2.1	No odours, staining or asbestos
		0.2		Fill	Fill - Clay, brown, heterogeneous, moist, high plasticity, firm. Inclusions of gravels.	M	BH09_0.30-0.40	1.9	No odours, staining or asbestos
0.25		CH	Natural - Clay, brown, homogeneous, damp, high plasticity, firm	DP				No odours, staining or asbestos	
0.3									
0.35									BH09_0.60-0.70
0.4		0.4							
		0.45							
		0.5							
		0.55							
		0.6							
		0.65							
		0.7			Termination Depth at: 0.70 m.				
		0.75							
		0.8							
		0.85							
		0.9							
		0.95							



Comments:

Project Number 64150 Client Legacy Property Group Project Name North Sydney DSI Address 253-267 Pacific Highway and 6-8 McLaren Street, North Sydney, NSW	Contractor Date 02-Mar-23 Plant N/A Method Hand Auger	Easting N/A Northing N/A Coordinate System GDA94_MGA_zone_56 Logged By AC
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Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05		Concrete	Fill - CONCRETE				No odours, staining or asbestos
		0.1		Fill	Fill - Clay, brown/grey, heterogeneous, wet, high plasticity, firm. Inclusions of gravels.	W	BH10_0.10-0.20	3.1	No odours, staining or asbestos
		0.15							
		0.2							
		0.25							
		0.3			Refusal Depth at: 0.30 m.				
		0.35							
		0.4							
		0.45							
		0.5							
		0.55							
		0.6							
		0.65							
		0.7							
		0.75							
		0.8							
		0.85							
		0.9							
		0.95							


Comments:

Project Number 64150 Client Legacy Property Group Project Name North Sydney DSI Address 253-267 Pacific Highway and 6-8 McLaren Street, North Sydney, NSW	Contractor Date 02-Mar-23 Plant N/A Method Hand Auger	Easting N/A Northing N/A Coordinate System GDA94_MGA_zone_56 Logged By AC
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Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05		Fill	Fill - Clay, dark brown, heterogeneous, damp, high plasticity, soft. Inclusions of roots, rootlets.	DP	BH11_0.00-0.10	3.2	No odours, staining or asbestos
		0.2		Fill	Fill - Sand, light brown, heterogeneous, damp, poorly graded, medium sand loose. Inclusions of rootlets	DP	BH11_0.20-0.30	4.1	No odours, staining or asbestos
		0.3		Fill	Fill - Sandy clay, brown, heterogeneous, damp, high plasticity, firm	DP	BH11_0.30-0.40	3.9	No odours, staining or asbestos
		0.4		CH	Natural - Clay, brown, heterogeneous, damp, high plasticity, firm	DP			No odours, staining or asbestos
		0.6					BH11_0.60-0.70	2.9	
		0.7			Termination Depth at: 0.70 m.				
		0.75							
		0.8							
		0.85							
		0.9							
		0.95							

Comments:

Project Number 64150 Client Legacy Property Group Project Name North Sydney DSI Address 253-267 Pacific Highway and 6-8 McLaren Street, North Sydney, NSW	Contractor Date 02-Mar-23 Plant N/A Method Hand Auger	Easting N/A Northing N/A Coordinate System GDA94_MGA_zone_56 Logged By AC
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Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05		Fill	Fill - Clay, dark brown, heterogeneous: damp, low plasticity, firm. Inclusions of roots, leaves, brick & tile fragments.	DP	BH12_0.00-0.10	1.1	No odours, staining or asbestos
		BH12_0.20-0.30					1.3		
		0.4					BH12_0.40-0.50	1.1	
		0.5			Refusal Depth on rock at: 0.50 m.				
		0.55							
		0.6							
		0.65							
		0.7							
		0.75							
		0.8							
		0.85							
		0.9							
		0.95							

Comments:

BOREHOLE LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 87.3 AHD
COORDINATE: E:333902.1, N:6254802.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH02
PROJECT No: 233323.00
DATE: 21/01/25
SHEET: 1 of 3

GROUNDWATER		CONDITIONS ENCOUNTERED					SAMPLE			TESTING AND REMARKS					
		RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. (%) DENSITY (%)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL
	87	0.15	CONCRETE: 150mm thick; SL62 at 70mm depth		FILL	ND	ND				0.15	IDCP9/150		Flush cover	
		0.40	FILL / Sandy GRAVEL: grey; fine to coarse, igneous; trace fines.		RS	H	w=PL		D		0.40				
		0.70	CLAY (CI-CH), with gravel: grey; medium to high plasticity; siltstone gravel.						D		0.70				
	86	0.93	SILTSTONE: grey; apparently very low strength								1				
	85	2	Continued as rock								2				
	84	3	0.60m: increased drill resistance; becoming extremely weathered siltstone with highly weathered; very low strength siltstone								3				
	83	4									4				
	82	5									5				
	81	6									6				
	80	7									7				
	79	8									8				
	78	9									9				

DRAFT
SUBJECT TO CHANGE

NOTES: #Soil origin is "probable" unless otherwise stated. †Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Proline **OPERATOR:** Tightsite **LOGGED:** R.Muller
METHOD: DT to 0.15m, HA to 0.93m, NMLC to 16.0m **CASING:** HQ to 0.94m
REMARKS:



Refer to explanatory notes for symbol and abbreviation definitions

Generated with CORE-GS by Geroc - Split Soil-Rock Log

BOREHOLE LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 87.3 AHD
COORDINATE: E:333902.1, N:6254802.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH02
PROJECT No: 233323.00
DATE: 21/01/25
SHEET: 3 of 3

CONDITIONS ENCOUNTERED										SAMPLE			TESTING						
GROUNDWATER RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
																			RS
77	11	SANDSTONE: pale grey, fine to coarse grained, 5-30% dark grey siltstone laminations and beds. Hawkesbury Sandstone					100	100											
76	12					H	100	100											
75	12.92						100	100		12.92m: B, 0°, PR, CN, SM									
74	14	SILTSTONE AND SANDSTONE: 80% dark grey siltstone; 20% fine grained, pale grey sandstone. Hawkesbury Sandstone		FR			100	100											
73	14.29						100	100		14.29m: B, 15°, PR, CT Clay 3mm, RF									
72	15	SANDSTONE: pale grey, medium to coarse grained, 1-5% dark grey siltstone laminations. Hawkesbury Sandstone				M to H	100	100											
71	16	Borehole discontinued at 16.00m depth. Target depth reached.																	
70	17																		
69	18																		
68	19																		

DRAFT
SUBJECT TO CHANGE

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Proline
METHOD: DT to 0.15m, HA to 0.93m, NMLC to 16.0m
REMARKS:

OPERATOR: Tightsite

LOGGED: R.Muller
CASING: HQ to 0.94m

Refer to explanatory notes for symbol and abbreviation definitions



Generated with CORE-GS by Geoc - Split Soil-Rock Log

CORE PHOTO LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 87.3 AHD
COORDINATE: E:333902.1, N:6254802.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH02
PROJECT No: 233323.00
DATE: 21/01/25
SHEET: 1 of 2



CORE PHOTO LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 87.3 AHD
COORDINATE: E:333902.1, N:6254802.3
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH02
PROJECT No: 233323.00
DATE: 21/01/25
SHEET: 2 of 2



BOREHOLE LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 86.0 AHD
COORDINATE: E:333910.7, N:6254785.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH03
PROJECT No: 233323.00
DATE: 20/01/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED					SAMPLE			TESTING AND REMARKS				
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. (%) DENSITY (%)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
20/01/25 No free groundwater observed whilst augering	0.10	CONCRETE: 100mm thick, no reo observed	[Concrete Symbol]	FILL	ND	ND		D	0.10 - 0.25	0.10		
	0.25	FILL / Gravelly CLAY, with sand: grey; medium to high plasticity; medium to coarse, igneous gravel.	[Fill Symbol]							0.25		
	0.80	CLAY (CI-CH): grey; medium to high plasticity.	[Clay Symbol]	RS		H	w>PL		D	0.80 - 0.90		0.90
	1.40	CLAY: grey; medium plasticity; with pockets of highly weathered siltstone.	[Clay Symbol]				w<PL		D	1.40 - 1.50		1.50
	1.90	Continued as rock	[Rock Symbol]	XWM					D	1.80 - 1.90		1.90
	3									3		
	4									4		
	5									5		
	6									6		
	7									7		
	8									8		
	9									9		

DRAFT
SUBJECT TO CHANGE

NOTES: #Soil origin is "probable" unless otherwise stated. #Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Proline

OPERATOR: Tightsite

LOGGED: R.Muller

METHOD: DT to 0.1m, HA to 1.9m, NMLC to 13.09m

CASING: HQ to 1.9m

REMARKS:

BOREHOLE LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 86.0 AHD
COORDINATE: E:333910.7, N:6254785.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---

LOCATION ID: BH03
PROJECT No: 233323.00
DATE: 20/01/25
SHEET: 2 of 3

CONDITIONS ENCOUNTERED										SAMPLE			TESTING												
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE							
20/01/25 No free groundwater observed whilst augering	0.25																								
	1																								
	2	Continued from soil																							
	2.15	CORE LOSS																							
	2.15 - 3.36	SILTSTONE: dark grey with orange-brown iron staining, 1-5% fine grained, pale grey sandstone laminations. Ashfield Shale	HW, SW		2.15, 2.34, 3.15, 3.25, 3.36, 3.45	VL	83	0		2.29m: JT, 15°, UN, VNR Clay, SM 2.34m: B, 0°, PR, SN, Fe, SM 2.37m: JT, 70°, CU, SN, Fe, SM 2.41m: CS, Clay 30mm 2.44-2.53m: B x4, 0°, PR, Fe, SM 2.68m: CS, 10mm, Fe Clay 2.78m: JT, 45°, UN, Fe, RF 2.88m: JT, 20°, PR, Fe, SM 3.03-3.07m: B x2, 0°, PR, Fe, SM 3.12m: CS, 20mm, Fe Clay 3.21m: B, 0°, PR, CT Clay 5mm, SM 3.25-3.28m: EW, Clay 30mm 3.31m: JT, 0-60°, ST, CT Clay 10mm, SM, Fe 3.36-3.45m: EW, Clay 90mm 3.95-4.10m: JT, 50°, PR, Fe, SM 4.14m: JT, 45°, PR, Fe, SM 4.22-4.42m: JT, 70°, PR, VNR Clay, SM 4.48m: JT, 45-60°, ST, CN, SM 4.54m: JT, 70°, UN, CN, SM 4.59m: JT, 30°, PR, CN, SM 4.63-4.69m: EW, Clay 60mm 4.70m: B, 0°, PR, Fe, SM 4.76m: JT, 60°, PR, Fe, SM 4.84m: JT, 80°, PR, Fe, SM 5.00m: JT, 45°, PR, CN, SM 5.11m: JT, 20°, UN, TI 5.15m: JT, 15°, PR, CN, SM 5.32m: JT, 15-20°, PR, CN, SM 5.40m: JT, 20°, UN, SN, Fe, SM 5.45m: JT, 10-20°, CU, SN, Fe, SM 5.58m: JT, 20°, PR, SN, Fe, SM 5.66m: JT, UN, Fe, SM 5.69m: JT, 10°, UN, Fe, SM 5.78m: JT, 45°, PR, Fe, SM 5.86m: JT, 20°, PR, Fe, SM 6.49m: JT, 70°, UN, CN, SM 6.62-6.72m: JT, 60°, UN, CN, SM 7.08m: JT, 0-15°, UN, CN, SM 7.12m: JT, 0-15°, UN, CN, SM 7.37m: B, 10°, PR, VNR Clay, RF 8.03m: B, 10°, PR, VNR Clay, RF 8.08m: DS, 5mm 9.85m: B, 0°, PR, CT Clay 1mm, RF															
	3																								
	3.95	SILTSTONE: dark grey with occasional orange-brown iron staining. Ashfield Shale	SW		4.63, 4.69	VL	66	0																	
	4.90	SILTSTONE: dark grey; medium bedded to laminated. Ashfield Shale	SW		4.90	L	100	100																	
	5.86																								
	6																								
	6.79	SANDSTONE AND SILTSTONE: 70% fine grained sandstone and 30% dark grey siltstone. Ashfield Shale																							
	7																								
	7.37	SANDSTONE: pale grey, fine to medium grained, 1-5% siltstone laminations. Hawkesbury Sandstone	FR																						
	8																								
	8.08	SANDSTONE: pale grey, medium to coarse grained, 1-5% siltstone laminations. Hawkesbury Sandstone																							
	9																								
	9.78m-9.85m	fine grained, grey sandstone bed																							

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Proline

OPERATOR: Tightsite

LOGGED: R.Muller

METHOD: DT to 0.1m, HA to 1.9m, NMLC to 13.09m

CASING: HQ to 1.9m

REMARKS:

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 86.0 AHD
COORDINATE: E:333910.7, N:6254785.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH03
PROJECT No: 233323.00
DATE: 20/01/25
SHEET: 3 of 3

CONDITIONS ENCOUNTERED										SAMPLE			TESTING						
GROUNDWATER RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS		BACKFILL	WELL PIPE
																PL	PL(A)		
	11.00	[CONT] SANDSTONE: pale grey, medium to coarse grained, 1-5% siltstone laminations. Hawkesbury Sandstone					100	100						11	PLT	PL(A)=2.1MPa			
	12	SANDSTONE AND SILTSTONE: 80% dark grey siltstone and 20% fine grained pale grey sandstone. Hawkesbury Sandstone		FR						11.00m: B, 0°, PR, CN, SM				11.73	PLT	PL(A)=2.0MPa			
	12.25	SANDSTONE: pale grey, fine to medium grained, 1-5% siltstone laminations. Hawkesbury Sandstone			12.25		100	100		11.73m: B, 0°, PR, CN, SM				12	PLT	PL(A)=2.6MPa			
	13									12.25m: B, 0°, PR, CN, RF				13	PLT	PL(A)=0.90MPa			
	13.09	Borehole discontinued at 13.09m depth. Target depth reached.																	

DRAFT
SUBJECT TO CHANGE

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Proline
METHOD: DT to 0.1m, HA to 1.9m, NMLC to 13.09m
REMARKS:

OPERATOR: Tightsite

LOGGED: R.Muller
CASING: HQ to 1.9m

Refer to explanatory notes for symbol and abbreviation definitions



Generated with CORE-GS by Geoc - Split Soil-Rock Log

CORE PHOTO LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 86.0 AHD
COORDINATE: E:333910.7, N:6254785.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH03
PROJECT No: 233323.00
DATE: 20/01/25
SHEET: 1 of 2



**DRAFT
SUBJECT TO CHANGE**

1.90-6.00 m depth



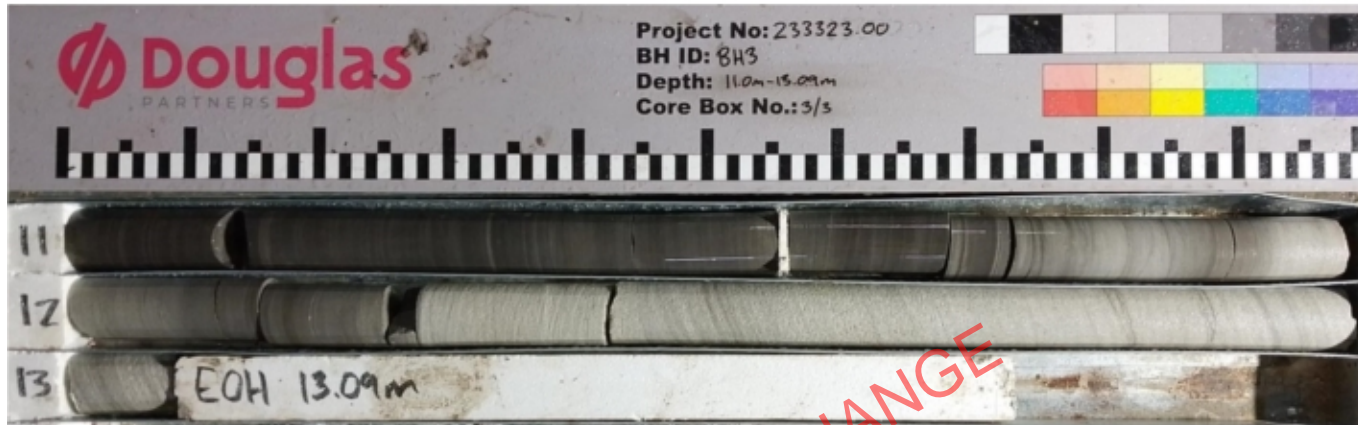
6.00-11.00 m depth

CORE PHOTO LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 86.0 AHD
COORDINATE: E:333910.7, N:6254785.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH03
PROJECT No: 233323.00
DATE: 20/01/25
SHEET: 2 of 2



**DRAFT
SUBJECT TO CHANGE**

11.00-13.09 m depth

BOREHOLE LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 86.6 AHD
COORDINATE: E:333929.3, N:6254779.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH04
PROJECT No: 233323.00
DATE: 13/01/25 - 14/01/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS					
GROUNDWATER RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. (%) DENSITY, (g)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
	0.10	CONCRETE: 100mm thick; no reo observed	[Concrete Symbol]					D	0.10 - 0.20					
	0.50	FILL / Gravelly CLAY: grey ; medium plasticity; with brick fragments.	[Fill Symbol]	FILL	ND	ND		D	0.40 - 0.50					
	0.50	CLAY (CH): pale grey; high plasticity.	[Clay CH Symbol]											
	1.00		[Clay CH Symbol]					SPT	1.00 - 1.45		SPT	3,6,7 N=13 400-500kPa		
	2.00	From 2.00m: grey and dark brown, increased drilling resistance	[Clay CH Symbol]	RS	St to VSt	w<PL					PP			
	2.50	CLAY (CI): pale grey; medium plasticity; extremely weathered material.	[Clay CI Symbol]					SPT	2.50 - 2.95		SPT	6,13,18 N=31 >600kPa		
	3.10	Continued as rock	[Rock Symbol]	XWM	H						PP			
	4.00													
	5.00													
	6.00													
	7.00													
	8.00													
	9.00													

DRAFT
SUBJECT TO CHANGE

NOTES: #Soil origin is "probable" unless otherwise stated. *Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Bobcat
METHOD: DT to 0.1m, AD/T to 2.5m, WB to 3.1m, NMLC to 19.94m
REMARKS:

OPERATOR: Ground Test (GM)

LOGGED: J. Valencic
CASING: HQ to 3.1m

BOREHOLE LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 86.6 AHD
COORDINATE: E:333929.3, N:6254779.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH04
PROJECT No: 233323.00
DATE: 13/01/25 - 14/01/25
SHEET: 2 of 3

CONDITIONS ENCOUNTERED										SAMPLE			TESTING					
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
RL (m)	86													0.20				
	85													0.50				
	1													1.45				
	2													2				
	2.95													2.95				
	3.10	Continued from soil																
	3.10	SILTSTONE: grey with red-brown staining, with hard clay seams (<25%); fragmented. Ashfield Shale		XW to HW		VL	100	-		310-395m: numerous B & JT, Fe								
	4.00	CLAY (CH): grey and red-brown; high plasticity; with pockets of very low strength rock (<20%); extremely weathered siltstone.		XW			100	15							PP	500kPa		
	4.90	SILTSTONE: dark grey; fractured; bedded at 0° with infrequent sandstone laminations (<5%). Ashfield Shale		HW		VL				502m: B x7, 0-10°, SN Fe					PP	550kPa		
	5.05					L				553m: B x11, SN Fe					PLT	PL(A)=0.29MPa		
	5.15					M				565m: JT, 75°, PR, CN					PLT	PL(A)=0.42MPa		
	5.20									592m: JT, 25°, PR, CN					PLT	PL(A)=0.25MPa		
	6						100	35		6.15m: JT, 75°, ST, SN Fe, SM								
	6.07					L				6.08-6.35m Bx4, 0-10°								
	6.20					L to M				6.49m CS, 90mm								
	6.45					L				6.65-6.86m: B x3, 0°, CT Clay					PLT	PL(A)=0.64MPa		
	6.65									720m: DS, 110mm					PLT	PL(A)=0.75MPa		
	7					M				730-733m Bx2, 0°, CN, SM					PLT	PL(A)=0.47MPa		
	7.14					VL to L				750m: DS, Clay 8mm								
	7.38									754m: DS, Clay 20mm					PLT	PL(A)=1.6MPa		
	7.45	SANDSTONE: pale grey, fine to medium grained, medium bedded. Hawkesbury Sandstone		SW			100	55		8.02-814m: B x3, 0°, CN								
	8									8.20m: DS, Clay 20mm					PLT	PL(A)=0.68MPa		
	8.44									8.44m: B 5°, ST, CN, RF								
	9						100	100		9.63m: B, 0°, PR, CT Clay, RF					PLT	PL(A)=0.79MPa		

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
METHOD: DT to 0.1m, AD/T to 2.5m, WB to 3.1m, NMLC to 19.94m
REMARKS:

OPERATOR: Ground Test (GM)

LOGGED: J. Valencic
CASING: HQ to 3.1m

BOREHOLE LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 86.6 AHD
COORDINATE: E:333929.3, N:6254779.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH04
PROJECT No: 233323.00
DATE: 13/01/25 - 14/01/25
SHEET: 3 of 3

CONDITIONS ENCOUNTERED										SAMPLE			TESTING						
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
	7.6	[CONT] SANDSTONE: pale grey, fine to medium grained, medium bedded. Hawkesbury Sandstone					100	100							PLT	PL(A)=0.69MPa			
	10.76	SILTSTONE: dark grey, with 10% fine grained inter laminated sandstone. Hawkesbury Sandstone		SW		M								11	PLT	PL(A)=1.8MPa			
	11.60	SANDSTONE: pale grey, medium grained, with discontinuous cross-bedding at 10-15°. Hawkesbury Sandstone			11.48	L	100	90		11.49-11.60m: B x9, 0°, PR, CT Clay									
	12			11.66	M					11.66m: DS, Clay 25mm									
	12			11.89	L					11.87-11.96m CS, 90mm									
	13					M								13	PLT	PL(A)=0.68MPa			
	14				14.50		100	97		13.56m: B, 10°, UN, CT Clay, RF				14	PLT	PL(A)=0.80MPa			
	15									13.92m: B, 0°, UN, CN, RF									
	16			FR			100	100		14.79m: B, 5°, PR, CN, RF				15	PLT	PL(A)=0.99MPa			
	17									14.85m: B, 5°, PR, CN, RF									
	18													16	PLT	PL(A)=1.0MPa			
	19									16.22m: B, 5°, PR, CT Clay, RF				17	PLT	PL(A)=1.0MPa			
	19.94	Borehole discontinued at 19.94m depth. Target depth reached.												18	PLT	PL(A)=1.2MPa			
														19	PLT	PL(A)=1.1MPa			
														19	PLT	PL(A)=1.1MPa			

DRAFT
SUBJECT TO CHANGE

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Bobcat
METHOD: DT to 0.1m, AD/T to 2.5m, WB to 3.1m, NMLC to 19.94m
REMARKS:

OPERATOR: Ground Test (GM)

LOGGED: J. Valencic
CASING: HQ to 3.1m

CORE PHOTO LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

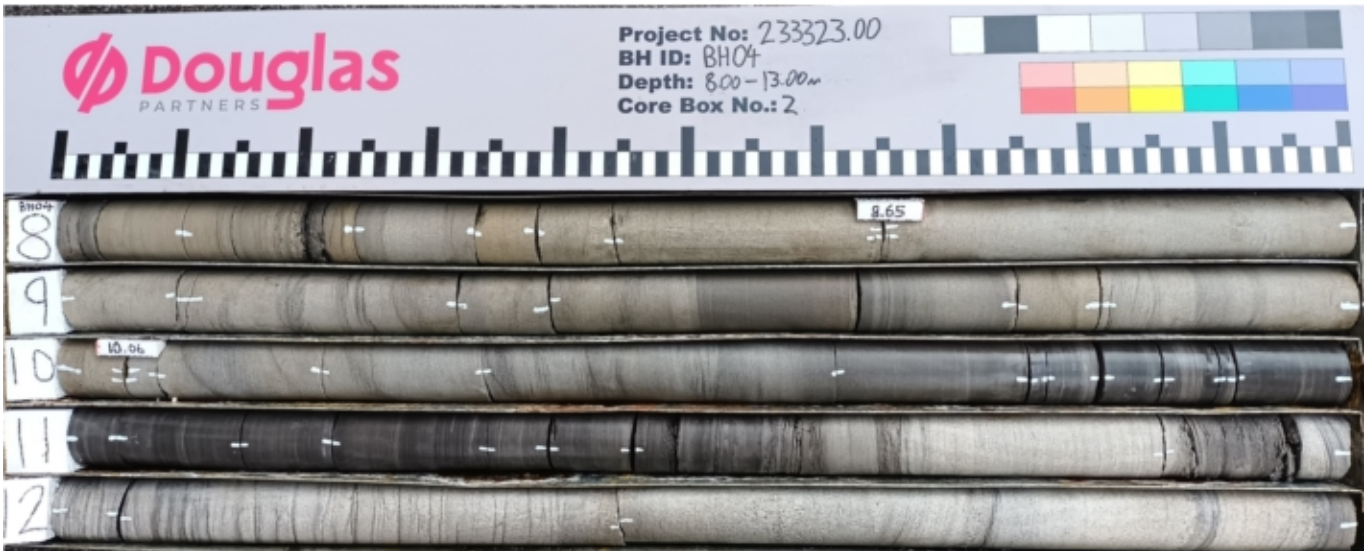
SURFACE LEVEL: 86.6 AHD
COORDINATE: E:333929.3, N:6254779.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH04
PROJECT No: 233323.00
DATE: 13/01/25 - 14/01/25
SHEET: 1 of 2



**DRAFT
SUBJECT TO CHANGE**

3.10-8.00 m depth



8.00-13.00 m depth

CORE PHOTO LOG

CLIENT: Legacy Property Pty Ltd
PROJECT: Proposed Mixed Use Development
LOCATION: 253-265 Pacific Highway, North Sydney, NSW

SURFACE LEVEL: 86.6 AHD
COORDINATE: E:333929.3, N:6254779.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH04
PROJECT No: 233323.00
DATE: 13/01/25 - 14/01/25
SHEET: 2 of 2



Appendix E Calibration and Decontamination Records

Certificate of Service and Calibration
Interface Meter
Heron H.Oil

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	Heron H.Oil Interface Meter (30m)
Serial Number	16DM2403191FR
Client Name	Alison Smith (JBS&G)
Project Number	68635

Instrument Check			
Item	Test	Test Passed	Comments
9V Battery	Klein Tools MM300 Multimeter	✓	Battery voltage reading above 7.9V
Battery Box	Check	✓	No damage
Face and Back Plates	Check	✓	No damage
Thumb Screws	Check	✓	Rubber ends intact
Tape Hangar/Protector	Check	✓	No damage
On/Off Button	Operation	✓	Button is functional
Buzzer	Operation	✓	Intermittent tone in H ₂ O, solid tone in product
LED Signal Light	Operation	✓	LED light functional – green and red
Probe	Operation/Check	✓	Decontaminated, cleaned and tested
Tape	Condition/Check	✓	Decontaminated and cleaned, no damage
Connection	Check	✓	Probe and link connected correctly and tightly
PCB	Operation	✓	Unit is fully functional
Electronics Panel	Orientation	✓	Correctly aligned

Instrument Readings		
Product	Buzzer	LED Light
H ₂ O	Intermittent	Blinking – Red
Petroleum	Solid	Steady – Red

Declaration
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The interface meter was decontaminated, cleaned and tested with a mixture of tap water and petrol, shielded from ambient light.

Checked By	William Pak
Calibration Date	23/01/2025
Calibration Due	23/07/2025

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	YSI Pro Quatro Water Quality Meter w/ 1m Quatro Cable
Serial Number	20G100643
Client Name	Alison Smith (JBS&G)
Project Number	68635
Comments	-

Instrument Check

Item	Test	Test Passed	Comments
2 x Alkaline C-size Batteries	Klein Tools MM300 Multimeter	✓	Both batteries reading above 2.9V
Battery Saver Function	Operation	✓	Automatically turns off after 60 minutes if idle
Unit Display	Operation	✓	Screen visible, no damage
Keypad	Operation	✓	Responsive, no damage
Connection Port and Cable	Condition/Check	✓	Clean, no damage
Monitor Housing	Condition/Check	✓	No damage
Firmware	Version	✓	4.0.0
pH Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
pH millivolts for pH 7.00	Calibration	✓	pH 7.00 calibration range between 0 mV ± 50 mV
pH millivolts for pH 4.00	Calibration	✓	pH 4 mV range +165 to +180 from 7 buffer mV value
pH slope	Calibration	✓	Range between 55 to 60 mV/pH (ideal value 59 mV)
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
ORP Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
ORP Reading	Calibration	✓	Within ± 80 mV of reference Zobell Reading
Response time < 90 seconds	Calibration	✓	Responds to correct value within 90 seconds
Conductivity/Temp Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
Conductivity Cell	Calibration	✓	Conductivity cell constant 5.0 ± 1.0 in GLP file
Clean Sensor Readings	Calibration	✓	Clean sensor reads less than 3 uS/cm in dry air
Dissolved Oxygen Probe	Condition/Calibration	✓	Calibrated and conforms to manufacturer's specs
DO Cap	Condition/Calibration	✓	1.25 mil PE membrane (yellow membrane)
DO Sensor in Use	Condition	✓	Polarographic DO sensor
DO Sensor Value	Calibration	✓	(min 4.31 uA - max 8.00 uA) Avg 6.15 uA

Instrument Readings

Parameter	Standard Used	Reference No.	Calibration Value	Observed	Actual	Units
Temperature	Centre 370 Thermometer	Room Temp.	28.3	29.6	28.3	°C
pH	pH 4.00	417183	4.01	4.09	4.01	pH
pH	pH 7.00	419528	7.00	7.04	7.00	pH
Conductivity	2760 µs/cm at 25°C	399819	2760	2761	2760	µs/cm
ORP (Ref. check only)	Zobell A & B	420448/418958	221.7	224.5	221.7	mV
Zero Dissolved O ₂	NaSO ₃ in Distilled H ₂ O	426184	0.0	0.6	0.0	%
100% Dissolved O ₂	100% Air Saturated H ₂ O	Fresh Air	100.0	91.8	100.0	%

Declaration

WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The calibration data supplied was obtained in accordance with manufacturer's specifications using solutions of known values.

Calibrated By	William Pak
Calibration Date	23/01/2025
Calibration Due	23/07/2025

Company Name	WAM Scientific
Office Address	26 Bungarra Crescent, Chipping Norton NSW 2170
Phone Number	+61 405 241 484
Contact Name	William Pak
Instrument	QED MP10 Kit
Serial Number	Sample Pro Pump: 144680
Serial Number	MP10-3745
Client Name	Alison Smith (JBS&G)
Project Number	68635

Instrument Check			
Item	Test	Test Passed	Comments
MP10 Controller	Operation	✓	Controller operational
Gas Regulator	Condition	✓	No damage, good condition
Wrench and Tube Cutter	Condition	✓	Attached to the controller
Blue Coiled Hose	Condition	✓	No tears, clean, good condition
Tube Connection Fitting	Condition	✓	No damage
Black Canvas Bag	Condition	✓	No damage, clean
Sample Pro Pump	Condition	✓	No damage, decontaminated
Bladder	Condition	✓	1x New bladder included free of charge
Pump Fittings	Condition	✓	No damage, good condition
CO2 Gas Bottle	Check & Test	✓	1x CO2 bottle included free of charge
Kit Operation	Operation	✓	MP10 kit fully operational
Instructional Manual	-	✓	User manual included

Inclusions
The MP10 Kit should include the following items: <ul style="list-style-type: none"> QED MP10 Controller, Blue Coiled Hose with Tube Connection Fitting, Red Pressure-Resistant Hose, Wrench and Tube Cutter, Sample Pro Pump, Regulator, 1x CO2 gas bottle, Wire Cable Hand Reel, and spares/accessories box Additional CO2 gas bottles will be supplied upon request at an additional cost

Declaration
WAM Scientific certifies that the above instrument was successfully tested according to manufacturer's standards and all necessary checks were conducted to ensure the instrument was fully operational prior to dispatch. The pump has been decontaminated and cleaned upon return from the previous hire and is in good working order.

Checked By	William Pak
Calibration Date	23/01/2024
Calibration Due	23/07/2024

Appendix F Quality Assurance / Quality Control Assessment

The QA/QC results for soil samples collected at the site are summarised in **Table F.1** and discussed following. Laboratory certificates of analysis are included in **Appendix G**.

Table F.1: Data Quality Indicator Assessment

Data Quality Indicators	Frequency	Result	DQO met?
Precision			
Duplicates (intra laboratory) - Soil	1 / 8 samples	0-119% RPD	Partial
Duplicates (intra Laboratory) - Water	1 / 3 samples	<15% RPD	Yes
Triplicates (Inter laboratory) -Soil	1 / 8 samples	0-117% RPD	Partial
Triplicates (intra Laboratory) - Water	1 / 3 samples	<15% RPD	Yes
Laboratory Duplicates ² - Soil	1 / 20 samples/media	4-22% RPD	Yes
Laboratory Duplicates ² - Water	1 / 3 samples/media	<30% RPD	Yes
Accuracy			
Surrogate spikes	All organic samples	60-146% RPD	Partial
Laboratory control samples	1 per lab batch	70-131% RPD	Partial
Matrix spikes	1 per lab batch	70-130% RPD	Yes
Representativeness			
Sampling appropriate for media and analytes	-	Yes	Yes
Samples extracted and analysed within holding times.	-	Not all samples extracted in time	Partial
Laboratory blanks	1 per lab batch	<LOR	Yes
Trip spike	1 per lab batch	81-100% RPD	Yes
Trip blank	1 per lab batch	<LOR	Yes
Rinsate blank	1 per sampling data where reusable equipment is used	<LOR	Yes
Field blank ¹	1 per sampling event	<LOR	Yes
Comparability			
Standard operating procedures for sample collection & handling	All Samples	All samples ³	Yes
Standard analytical methods used for all analyses	All Samples	All samples ³	Yes
Consistent field conditions, sampling staff and laboratory analysis	All Samples	All samples ³	Yes
Limits of reporting appropriate and consistent	All Samples	All samples ³	Yes
Completeness			
Sample description and COCs completed and appropriate	All Samples	All samples ³	Yes
Appropriate documentation	All Samples	All samples ³	Yes

Data Quality Indicators	Frequency	Result	DQO met?
Satisfactory frequency and result for QC samples	All QA/QC samples	_3	Yes
Data from critical samples is considered valid	-	Critical samples valid ³	Yes
Sensitivity			
Analytical methods and limits of recovery appropriate for media and adopted site assessment criteria	All samples	All samples	Yes

¹ For soil vapour samples only.

² If the RPD between duplicates is greater than the pre-determined data quality indicator, a judgment was made as to whether the excess is critical in relation to the validation of the data set or unacceptable sampling error is occurring in the field.

³ A qualitative assessment of compliance with standard procedures and appropriate sample collection methods was completed during the DQI compliance assessment.

Precision

A summary of all RPD calculations is provided following the QA/QC evaluation.

Soil Duplicates and Triplicates

Soil duplicates and triplicates were initially collected at a rate of greater than 1 per 20 primary samples analysed, meeting the 1/20 DQI frequency. RPDs were within the acceptable JBS&G acceptable limit (0-50%), with the exception of the following:

- Lead with an RPD of 69% between the primary (BH05_0.2-0.3) and duplicate (QC20230302) samples;
- Chromium with an RPD of 94% between the primary (BH05_0.2-0.3) and triplicate (QA20230302) samples;
- Nickel with an RPD of 94% between the primary (BH05_0.2-0.3) and triplicate (QA20230302) samples;
- Zinc with an RPD of 103% between the primary (BH05_0.2-0.3) and triplicate (QA20230302) samples;
- Benzo(a)pyrene TEQ (LOR) with an RPD of 82% between the primary (BH05_0.2-0.3) and triplicate (QA20230302) samples;
- Aldrin with an RPD of 119% between the primary (BH05_0.2-0.3) and duplicate (QC20230302) samples and an RPD of 117% between the primary (BH05_0.2-0.3) and triplicate (QA20230302) samples;
- Dieldrin with an RPD of 115% between the primary (BH05_0.2-0.3) and duplicate (QC20230302) samples; and
- Aldrin + Dieldrin with an RPD of 118% between the primary (BH05_0.2-0.3) and duplicate (QC20230302) samples.

It is considered that the elevated RPDs are due to the low reported COPC concentrations and heterogeneous nature of the soils. Additionally, analytical results with high RPDs were generally in agreement as they were reported at levels below the adopted criteria. As a conservative measure, the highest result obtained was adopted for assessment purposes. Based on this, the RPDs above the DQI are not considered to affect the data set.

Groundwater Duplicates and Triplicates

One water duplicate and triplicate was completed for the programme which meets with the 1 in 10 primary sample density requirements. The RPDs were within 15% and met with JBS&G acceptable limits (0-50%).

Laboratory Duplicates

All laboratory duplicate RPDs were within the JBS&G acceptable limit (0-50%). The rate of laboratory duplicate analysis is within the JBS&G acceptance criteria of 1 in 20 samples.

Accuracy

Surrogate Spikes

Surrogate spike recoveries were mostly reported within the JBS&G acceptable range of 70-130%, Those outside the range were within the laboratories acceptable range of 50-150%.

Laboratory Control Samples

Laboratory control sample recoveries were mostly reported within the JBS&G acceptable range of 70-130%, Those outside the range were within the laboratories acceptable range of 50-150%.

Matrix Spikes

Matrix spikes recoveries were reported within the JBS&G acceptable range of 70-130%.

Representativeness

Sampling appropriate for media and analytes

All soil and soil vapour sampling works completed during the investigation were conducted in accordance with JBS&G standard operating procedures. Soil sampling was conducted as described in **Section 5.2.1** and soil vapour was conducted as described in **Section 5.2.2**.

Holding Times

The extraction and analysis of a single soil samples were completed by the primary laboratory outside the recommended holding time. However, it is noted the samples were transferred to chilled eskies immediately following sampling and maintained cold until delivered to the laboratories, at which point the samples were logged in and transferred to cool storage until extracted. Further, consistent with field observations and screening whereby no indications of potential volatile COPC were noted and no other visible indicators of potential non-volatile COPC were observed, all laboratory analysis results are indicative of low COPC concentrations that are not indicative of COPC loss between sampling and extraction. As such, the delayed extraction time has been deemed not to impact the data set nor investigation conclusions.

Trip Spike

A trip spike was submitted with the soil and groundwater 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 sampling.

Trip Blank

A trip blank sample was carried during the soil sampling event. There were no reported concentrations of BTEX compounds above the laboratory LOR, achieving the nominated DQIs.

Rinsate

A rinsate was taken of the reusable equipment used, no reported concentrations above the laboratory LOR, achieving the nominated DQIs.

Field Blank

A Field Blank was undertaken with the soil vapour samples. There were no reported concentrations above the laboratory LOR in the field blank analysed.

Laboratory Blank

There were no reported concentrations above the laboratory LOR in the laboratory method blanks analysed.

Comparability

Documentation

All documentation is complete and correct. Decontamination and calibration field sheets are provided in **Appendix G**.

Frequency for QC Samples

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

Completeness

Samples were transported under full chain of custody (COC) documentation. The COC documentation was complete, and the selected analyses were correctly conducted.

All field documentation was completed appropriately including borehole logs, COCs, daily field logs and calibration and decontamination sheets (PID).

Sensitivity

Laboratory analysis methods for all contaminants adopted during the investigation applied limits of reporting less than the site assessment criteria.

QA/QC Assessment

The field sampling and handling procedures produced QA/QC results which indicate that the soil data was 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 soil and soil vapour data is of an acceptable quality in order to achieve the objectives of the assessment.

Appendix G Laboratory Reports and Chain of Custody Documentation

Eurofins (1/2)

Chain of Custody



PROJECT NO.: 64150						LABORATORY BATCH NO.:											
PROJECT NAME: NTH SYD						SAMPLERS: A-CHECK											
DATE NEEDED BY:						QC LEVEL: NEPM (2013)											
PHONE: Sydney 02 8245 0300 Perth 08 9488 0100 Brisbane 07 3112 2688 Melbourne 03 9642 0599 Adelaide 08 8431 7113																	
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) ALISON.SMITH@jbsg.com.au; (3) A.CHECK@jbsg.com.au																	
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																	
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	HM	TRH/BTEX	PAH	VOC	DCP	PCB	ASBESTOS	TYPE OF ASBESTOS ANALYSIS		NOTES:		
													IDENTIFICATION	NEPM/WA			
BH01-0-0.1	SOIL	02/03		JTB		X	X					X			X		
BH02-0.1-0.2						X	X	X	X								
BH05-0.2-0.3						X	X	X	X	X	X				X		
↓ -0.5-0.6																	
BH06-0.1-0.2						X	X										
↓ -0.2-0.3																	
↓ -0.5-0.6																	
BH09-0.2-0.3						X	X	X	X			X			X		
↓ -0.3-0.4																	
↓ -0.6-0.7																	
BH10-0.1-0.2						X	X										
BH11-0-0.1						X	X	X	X	X	X				X		
↓ -0.2-0.3																	
↓ -0.3-0.4																	
↓ -0.6-0.7																	
BH12-0-0.1						X	X										
↓ -0.2-0.3																	
↓ -0.4-0.5																	
QC20220302						X	X	X	X	X	X				X		
RELINQUISHED BY:				METHOD OF SHIPMENT:				RECEIVED BY:				FOR RECEIVING LAB USE ONLY:					
NAME: <i>Chika</i>		DATE: 02/03/23		CONSIGNMENT NOTE NO.				NAME: <i>S. IS</i>		DATE: <i>2/3</i>		COOLER SEAL - Yes..... No Intact Broken					
OF: JBS&G				TRANSPORT CO.				OF: <i>Chika</i>				COOLER TEMP deg C					
NAME:		DATE:		CONSIGNMENT NOTE NO.				NAME:		DATE:		COOLER SEAL - Yes..... No Intact Broken					
OF:				TRANSPORT CO.				OF:				COOLER TEMP deg C					

968779

PROJECT NO.: 64150					LABORATORY BATCH NO.:														
PROJECT NAME: NTH SVO					SAMPLERS: A CHECK														
DATE NEEDED BY:					QC LEVEL: NEPM (2013)														
PHONE: Sydney 02 8245 0300 Perth 08 9488 0100 Brisbane 07 3112 2688 Melbourne 03 9642 0599 Adelaide 08 8431 7113																			
SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) ALISON.SMITH@jbsg.com.au; (3) A.CHECK@jbsg.com.au																			
COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:																			
SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	TRH	VOC	ISOPROPA	HM	TRH/BTEX	PAH	VOC	DCP	PCB	TYPE OF ASBESTOS ANALYSIS		NOTES:		
															IDENTIFICATION	NEPM/WA			
RINS	WATER	02/03		PHM, VIALS, AMBER					X	X	X	X	X	X					
TS/TB	↓	↓		VIALS						X									
SVO1	CARBON	↓		CARBON TUBE		X	X	X											
SVO2	↓	↓		↓		↓	↓	↓											
DUP	↓	↓		↓		↓	↓	↓											
FB	↓	↓		↓		↓	↓	↓											
RELINQUISHED BY:					METHOD OF SHIPMENT:					RECEIVED BY:					FOR RECEIVING LAB USE ONLY:				
NAME: @jbsg		DATE: 02/03/23.			CONSIGNMENT NOTE NO.					NAME:					COOLER SEAL - Yes..... No Intact Broken				
OF: JBS&G					TRANSPORT CO.					DATE:					COOLER TEMP deg C				
NAME:		DATE:			CONSIGNMENT NOTE NO.					NAME:					COOLER SEAL - Yes..... No Intact Broken				
OF:					TRANSPORT CO.					DATE:					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																			

Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 Tel: +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 Tel: +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 Tel: +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 Tel: +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 Tel: +61 7 3902 4600 NATA# 1261 Site# 20794	1/2 Frost Drive Mayfield West NSW 2304 Tel: +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289

Eurofins ARL Pty Ltd

ABN: 91 05 0159 898

Perth
46-48 Banksia Road Welshpool WA 6106 Tel: +61 8 6253 4444 NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

Auckland	Christchurch
35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51 IANZ# 1327	43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

Sample Receipt Advice

Company name:	JBS & G Australia (NSW) P/L
Contact name:	Alison Smith
Project name:	NTH SYD
Project ID:	64150
Turnaround time:	5 Day
Date/Time received	Mar 2, 2023 3:15 PM
Eurofins reference	968779

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 24.1 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

Contact

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

Andrew Black on phone : (+61) 2 9900 8490 or by email: AndrewBlack@eurofins.com

Results will be delivered electronically via email to Alison Smith - alisonsmith@jbsg.com.au.



Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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

Newcastle
1/2 Frost Drive
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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
Sydney
NSW 2000

Project Name: NTH SYD
Project ID: 64150

Order No.:
Report #: 968779
Phone: 02 8245 0300
Fax:

Received: Mar 2, 2023 3:15 PM
Due: Mar 9, 2023
Priority: 5 Day
Contact Name: Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	HOLD	Isopropanol	Polycyclic Aromatic Hydrocarbons	Metals M8	Suite B13: OCP/PCB	VOC AIR-TRH (Total Recoverable Hydrocarbons)	Volatile Organics	Moisture Set	VOCs in Ambient Air by GC/MS	Eurofins Suite B1	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254								X				X	X		X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X		X	X	X	X	X	X	X	X	X	X
28	BH11_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008152		X											
29	BH12_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008153		X											
30	BH12_0.4-0.5	Mar 02, 2023		Soil	S23-Ma0008154		X											
Test Counts						5	10	8	6	10	4	8	6	9	8	10	1	1

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



NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025 – Testing
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Alison Smith**

Report **968779-A**
 Project name **NTH SYD**
 Project ID **64150**
 Received Date **Mar 02, 2023**

Client Sample ID			SV01 FRONT	SV01 BACK	SV02 FRONT	SV02 BACK
Sample Matrix			Air	Air	Air	Air
Eurofins Sample No.			S23- Ma0008137	S23- Ma0008138	S23- Ma0008139	S23- Ma0008140
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
Alcohols						
Isopropanol	10	Total ug	< 10	< 10	< 10	< 10
VOCs in Ambient Air by GC/MS						
1.1-Dichloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1-Dichloroethene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1-Dichloropropene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1.1-Trichloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1.1.2-Tetrachloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1.2-Trichloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1.2.2-Tetrachloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dibromo-3-chloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dibromoethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trimethylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.3.5-Trimethylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
2-Chlorotoluene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
2.2-Dichloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
4-Chlorotoluene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Benzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Bromochloromethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
cis-1.2-Dichloroethene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
cis-1.3-Dichloropropene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Dibromochloromethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Dibromomethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Isopropyl benzene (Cumene)	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
n-Butylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
n-Propylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			SV01 FRONT	SV01 BACK	SV02 FRONT	SV02 BACK
Sample Matrix			Air	Air	Air	Air
Eurofins Sample No.			S23- Ma0008137	S23- Ma0008138	S23- Ma0008139	S23- Ma0008140
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
VOCs in Ambient Air by GC/MS						
Naphthalene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
p-Isopropyltoluene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
sec-Butylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	5	Total ug	< 5	< 5	< 5	< 5
tert-Butylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
trans-1.3-Dichloropropene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes - Total*	1.5	Total ug	< 1.5	< 1.5	< 1.5	< 1.5
Fluorobenzene (surr.)	1	%	104	102	100	101
4-Bromofluorobenzene (surr.)	1	%	88	91	89	89
Dibromofluoromethane (surr.)	1	%	97	95	95	94
1.2-Dichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobutadiene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Total Recoverable Hydrocarbons						
TRH C6-C10	20	Total ug	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	Total ug	< 20	< 20	< 20	< 20
TRH >C10-C16	20	Total ug	< 20	< 20	< 20	< 20
TRH >C10-C16 less Naphthalene (F2) ^{N01}	20	Total ug	< 20	< 20	< 20	< 20

Client Sample ID			DUP FRONT	DUP BACK	FB FRONT	FB BACK
Sample Matrix			Air	Air	Air	Air
Eurofins Sample No.			S23- Ma0008141	S23- Ma0008142	S23- Ma0008143	S23- Ma0008144
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
Alcohols						
Isopropanol	10	Total ug	< 10	< 10	< 10	< 10
VOCs in Ambient Air by GC/MS						
1.1-Dichloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1-Dichloroethene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1-Dichloropropene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1.1-Trichloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1.1.2-Tetrachloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1.2-Trichloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.1.2.2-Tetrachloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dibromo-3-chloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dibromoethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichloroethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2-Dichloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5

Client Sample ID			DUP FRONT	DUP BACK	FB FRONT	FB BACK
Sample Matrix			Air	Air	Air	Air
Eurofins Sample No.			S23- Ma0008141	S23- Ma0008142	S23- Ma0008143	S23- Ma0008144
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
VOCs in Ambient Air by GC/MS						
1.2.4-Trimethylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.3.5-Trimethylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
2-Chlorotoluene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
2.2-Dichloropropane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
4-Chlorotoluene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Benzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Bromochloromethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Bromodichloromethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Bromoform	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Carbon Tetrachloride	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Chlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Chloroform	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
cis-1.2-Dichloroethene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
cis-1.3-Dichloropropene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Dibromochloromethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Dibromomethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Ethylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Isopropyl benzene (Cumene)	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
n-Butylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
n-Propylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
p-Isopropyltoluene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
sec-Butylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Styrene	5	Total ug	< 5	< 5	< 5	< 5
tert-Butylbenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Tetrachloroethene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Toluene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
trans-1.3-Dichloropropene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Trichloroethene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Trichlorofluoromethane	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Vinyl chloride	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Xylenes - Total*	1.5	Total ug	< 1.5	< 1.5	< 1.5	< 1.5
Fluorobenzene (surr.)	1	%	99	101	98	100
4-Bromofluorobenzene (surr.)	1	%	89	90	89	90
Dibromofluoromethane (surr.)	1	%	94	95	95	94
1.2-Dichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2.3-Trichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.2.4-Trichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.3-Dichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
1.4-Dichlorobenzene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Hexachlorobutadiene	0.5	Total ug	< 0.5	< 0.5	< 0.5	< 0.5
Total Recoverable Hydrocarbons						
TRH C6-C10	20	Total ug	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	Total ug	< 20	< 20	< 20	< 20
TRH >C10-C16	20	Total ug	< 20	< 20	< 20	< 20
TRH >C10-C16 less Naphthalene (F2) ^{N01}	20	Total ug	< 20	< 20	< 20	< 20

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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
Alcohols - Method: LTM-ORG-2260 Determination of Alcohols in Water and Soil by Headspace GC-MS	Melbourne	Mar 03, 2023	14 Days
VOCs in Ambient Air by GC/MS - Method: LTM-ORG-2030 VOCs in Ambient Air by GC/MS	Melbourne	Mar 03, 2023	14 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Melbourne	Mar 03, 2023	7 Days

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

Project Name: NTH SYD
Project ID: 64150

Order No.:
Report #: 968779
Phone: 02 8245 0300
Fax:

Received: Mar 2, 2023 3:15 PM
Due: Mar 9, 2023
Priority: 5 Day
Contact Name: Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	HOLD	Isopropanol	Polycyclic Aromatic Hydrocarbons	Metals M8	Suite B13: OCP/PCB	VOC AIR-TRH (Total Recoverable Hydrocarbons)	Volatile Organics	Moisture Set	VOCs in Ambient Air by GC/MS	Eurofins Suite B1	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254								X				X	X		X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X		X	X	X	X	X	X	X	X	X	X
External Laboratory																		
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID													
1	BH01_0-0.1	Mar 02, 2023		Soil	S23-Ma0008125	X			X					X		X		
2	BH02_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008126				X	X			X	X		X		
3	BH05_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008127	X			X	X	X		X	X		X		
4	BH06_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008128				X					X		X		
5	BH09_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008129	X			X	X			X	X		X		
6	BH10_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008130				X					X		X		
7	BH11_0-0.1	Mar 02, 2023		Soil	S23-Ma0008131	X			X	X	X		X	X		X		
8	BH12_0-0.1	Mar 02, 2023		Soil	S23-Ma0008132				X					X		X		
9	QC20230302	Mar 02, 2023		Soil	S23-Ma0008133	X			X	X	X		X	X		X		
10	RINS	Mar 02, 2023		Water	S23-Ma0008134				X	X	X		X			X		
11	TS	Mar 02, 2023		Water	S23-Ma0008135													X
12	TB	Mar 02, 2023		Water	S23-Ma0008136												X	

Company Name: JBS & G Australia (NSW) P/L
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NSW 2000

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Phone: 02 8245 0300
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Priority: 5 Day
Contact Name: Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail					Asbestos - WA guidelines	HOLD	Isopropanol	Polycyclic Aromatic Hydrocarbons	Metals M8	Suite B13: OCP/PCB	VOC AIR-TRH (Total Recoverable Hydrocarbons)	Volatle Organics	Moisture Set	VOCs in Ambient Air by GC/MS	Eurofins Suite B1	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254							X			X	X		X	X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217					X	X		X	X	X	X	X	X	X	X	X	X
13	SV01 FRONT	Mar 02, 2023		Air			X			X				X			
14	SV01 BACK	Mar 02, 2023		Air			X			X				X			
15	SV02 FRONT	Mar 02, 2023		Air			X			X				X			
16	SV02 BACK	Mar 02, 2023		Air			X			X				X			
17	DUP FRONT	Mar 02, 2023		Air			X			X				X			
18	DUP BACK	Mar 02, 2023		Air			X			X				X			
19	FB FRONT	Mar 02, 2023		Air			X			X				X			
20	FB BACK	Mar 02, 2023		Air			X			X				X			
21	BH05_0.5-0.6	Mar 02, 2023		Soil		X											
22	BH06_0.2-0.3	Mar 02, 2023		Soil		X											
23	BH06_0.5-0.6	Mar 02, 2023		Soil		X											
24	BH09_0.3-0.4	Mar 02, 2023		Soil		X											
25	BH09_0.6-0.7	Mar 02, 2023		Soil		X											
26	BH11_0.2-0.3	Mar 02, 2023		Soil		X											
27	BH11_0.3-0.4	Mar 02, 2023		Soil		X											

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 NATA# 1261 Site# 18217

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Address: Level 1, 50 Margaret St
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Sample Detail						Asbestos - WA guidelines	HOLD	Isopropanol	Polycyclic Aromatic Hydrocarbons	Metals M8	Suite B13: OCP/PCB	VOC AIR-TRH (Total Recoverable Hydrocarbons)	Volatile Organics	Moisture Set	VOCs in Ambient Air by GC/MS	Eurofins Suite B1	BTEXN and Volatile TRH	BTEXN and Volatile TRH	
Melbourne Laboratory - NATA # 1261 Site # 1254								X				X	X		X	X	X	X	
Sydney Laboratory - NATA # 1261 Site # 18217						X	X		X	X	X	X	X	X	X	X	X	X	X
28	BH11_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008152		X												
29	BH12_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008153		X												
30	BH12_0.4-0.5	Mar 02, 2023		Soil	S23-Ma0008154		X												
Test Counts						5	10	8	6	10	4	8	6	9	8	10	1	1	

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 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.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	µg/L: micrograms per litre
ppm: parts per million	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
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.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- 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.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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						
Alcohols						
Isopropanol	Total ug	< 10		10	Pass	
Method Blank						
VOCs in Ambient Air by GC/MS						
1.1-Dichloroethane	Total ug	< 0.5		0.5	Pass	
1.1-Dichloroethene	Total ug	< 0.5		0.5	Pass	
1.1-Dichloropropene	Total ug	< 0.5		0.5	Pass	
1.1.1-Trichloroethane	Total ug	< 0.5		0.5	Pass	
1.1.1.2-Tetrachloroethane	Total ug	< 0.5		0.5	Pass	
1.1.2-Trichloroethane	Total ug	< 0.5		0.5	Pass	
1.1.2.2-Tetrachloroethane	Total ug	< 0.5		0.5	Pass	
1.2-Dibromo-3-chloropropane	Total ug	< 0.5		0.5	Pass	
1.2-Dibromoethane	Total ug	< 0.5		0.5	Pass	
1.2-Dichloroethane	Total ug	< 0.5		0.5	Pass	
1.2-Dichloropropene	Total ug	< 0.5		0.5	Pass	
1.2.3-Trichloropropene	Total ug	< 0.5		0.5	Pass	
1.2.4-Trimethylbenzene	Total ug	< 0.5		0.5	Pass	
1.3-Dichloropropene	Total ug	< 0.5		0.5	Pass	
1.3.5-Trimethylbenzene	Total ug	< 0.5		0.5	Pass	
2-Chlorotoluene	Total ug	< 0.5		0.5	Pass	
2.2-Dichloropropene	Total ug	< 0.5		0.5	Pass	
4-Chlorotoluene	Total ug	< 0.5		0.5	Pass	
Benzene	Total ug	< 0.5		0.5	Pass	
Bromochloromethane	Total ug	< 0.5		0.5	Pass	
Bromodichloromethane	Total ug	< 0.5		0.5	Pass	
Bromoform	Total ug	< 0.5		0.5	Pass	
Carbon Tetrachloride	Total ug	< 0.5		0.5	Pass	
Chlorobenzene	Total ug	< 0.5		0.5	Pass	
Chloroform	Total ug	< 0.5		0.5	Pass	
cis-1.2-Dichloroethene	Total ug	< 0.5		0.5	Pass	
cis-1.3-Dichloropropene	Total ug	< 0.5		0.5	Pass	
Dibromochloromethane	Total ug	< 0.5		0.5	Pass	
Dibromomethane	Total ug	< 0.5		0.5	Pass	
Ethylbenzene	Total ug	< 0.5		0.5	Pass	
Isopropyl benzene (Cumene)	Total ug	< 0.5		0.5	Pass	
n-Butylbenzene	Total ug	< 0.5		0.5	Pass	
n-Propylbenzene	Total ug	< 0.5		0.5	Pass	
Naphthalene	Total ug	< 0.5		0.5	Pass	
p-Isopropyltoluene	Total ug	< 0.5		0.5	Pass	
sec-Butylbenzene	Total ug	< 0.5		0.5	Pass	
Styrene	Total ug	< 5		5	Pass	
tert-Butylbenzene	Total ug	< 0.5		0.5	Pass	
Tetrachloroethene	Total ug	< 0.5		0.5	Pass	
Toluene	Total ug	< 0.5		0.5	Pass	
trans-1.3-Dichloropropene	Total ug	< 0.5		0.5	Pass	
Trichloroethene	Total ug	< 0.5		0.5	Pass	
Trichlorofluoromethane	Total ug	< 0.5		0.5	Pass	
Vinyl chloride	Total ug	< 0.5		0.5	Pass	
Xylenes - Total*	Total ug	< 1.5		1.5	Pass	
1.2-Dichlorobenzene	Total ug	< 0.5		0.5	Pass	
1.2.3-Trichlorobenzene	Total ug	< 0.5		0.5	Pass	

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
1.2.4-Trichlorobenzene	Total ug	< 0.5		0.5	Pass	
1.3-Dichlorobenzene	Total ug	< 0.5		0.5	Pass	
1.4-Dichlorobenzene	Total ug	< 0.5		0.5	Pass	
Hexachlorobutadiene	Total ug	< 0.5		0.5	Pass	
Method Blank						
Total Recoverable Hydrocarbons						
TRH C6-C10	Total ug	< 20		20	Pass	
TRH >C10-C16	Total ug	< 20		20	Pass	
LCS - % Recovery						
Alcohols						
Isopropanol	%	127		70-130	Pass	
LCS - % Recovery						
VOCs in Ambient Air by GC/MS						
1.1-Dichloroethene	%	109		70-130	Pass	
1.1-Dichloropropene	%	83		70-130	Pass	
1.1.1-Trichloroethane	%	92		70-130	Pass	
1.2-Dibromo-3-chloropropane	%	94		75-125	Pass	
1.2-Dichloroethane	%	92		70-130	Pass	
Benzene	%	91		70-130	Pass	
Ethylbenzene	%	87		70-130	Pass	
Naphthalene	%	84		70-130	Pass	
Toluene	%	75		70-130	Pass	
Trichloroethene	%	87		70-130	Pass	
Xylenes - Total*	%	84		70-130	Pass	
1.2-Dichlorobenzene	%	81		70-130	Pass	
1.2.3-Trichlorobenzene	%	72		70-130	Pass	
1.2.4-Trichlorobenzene	%	80		70-130	Pass	
1.4-Dichlorobenzene	%	80		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons						
TRH C6-C10	%	101		70-130	Pass	
TRH >C10-C16	%	121		70-130	Pass	

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.

Authorised by:

Andrew Black	Analytical Services Manager
Joseph Edouard	Senior Analyst-Organic
Joseph Edouard	Senior Analyst-Volatile



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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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
 NATA is a signatory to the ILAC Mutual Recognition
 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: Alison Smith
Report 968779-AID
Project Name NTH SYD
Project ID 64150
Received Date Mar 02, 2023
Date Reported Mar 07, 2023

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 NTH SYD
Project ID 64150
Date Sampled Mar 02, 2023
Report 968779-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
BH01_0-0.1	23-Ma0008125	Mar 02, 2023	Approximate Sample 500g Sample consisted of: Brown coarse-grained soil, plaster, cement, rocks and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH05_0.2-0.3	23-Ma0008127	Mar 02, 2023	Approximate Sample 854g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH09_0.2-0.3	23-Ma0008129	Mar 02, 2023	Approximate Sample 976g Sample consisted of: Brown coarse-grained soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
BH11_0-0.1	23-Ma0008131	Mar 02, 2023	Approximate Sample 300g Sample consisted of: Brown coarse-grained sandy soil, rocks and debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
QC20230302	23-Ma0008133	Mar 02, 2023	Approximate Sample 724g Sample consisted of: Brown fine-grained clayey soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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	Mar 03, 2023	Indefinite

ABN: 50 005 085 521

ABN: 91 05 0159 898

NZBN: 9429046024954

Melbourne
6 Monterey Road
Dandenong South
VIC 3175
Tel: +61 3 8564 5000
NATA# 1261 Site# 1254

Geelong
19/8 Lewalan Street
Grovedale
VIC 3216
Tel: +61 3 8564 5000
NATA# 1261 Site# 25403

Sydney
179 Magowar Road
Girraween
NSW 2145
Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

Canberra
Unit 1,2 Dacre Street
Mitchell
ACT 2911
Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

Brisbane
1/21 Smallwood Place
Murarie
QLD 4172
Tel: +61 7 3902 4600
NATA# 1261 Site# 20794

Newcastle
1/2 Frost Drive
Mayfield West NSW 2304
Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

Perth
46-48 Banksia Road
Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Auckland
35 O'Rorke Road
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IANZ# 1327

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

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Company Name:	JBS & G Australia (NSW) P/L	Order No.:		Received:	Mar 2, 2023 3:15 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	Report #:	968779	Due:	Mar 7, 2023
Project Name:	NTH SYD	Phone:	02 8245 0300	Priority:	3 Day
Project ID:	64150	Fax:		Contact Name:	Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	HOLD	Isopropanol	Polycyclic Aromatic Hydrocarbons	Metals M8	Suite B13: OCP/PCB	VOC AIR-TRH (Total Recoverable Hydrocarbons)	Volatile Organics	Moisture Set	VOCs in Ambient Air by GC/MS	Eurofins Suite B1	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254								X				X	X		X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X		X	X	X	X	X	X	X	X	X	X
External Laboratory																		
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID													
1	BH01_0-0.1	Mar 02, 2023		Soil	S23-Ma0008125	X			X					X		X		
2	BH02_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008126				X	X			X	X		X		
3	BH05_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008127	X			X	X	X		X	X		X		
4	BH06_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008128				X					X		X		
5	BH09_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008129	X			X	X			X	X		X		
6	BH10_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008130				X					X		X		
7	BH11_0-0.1	Mar 02, 2023		Soil	S23-Ma0008131	X			X	X	X		X	X		X		
8	BH12_0-0.1	Mar 02, 2023		Soil	S23-Ma0008132				X					X		X		
9	QC20230302	Mar 02, 2023		Soil	S23-Ma0008133	X			X	X	X		X	X		X		
10	RINS	Mar 02, 2023		Water	S23-Ma0008134				X	X	X		X			X		
11	TS	Mar 02, 2023		Water	S23-Ma0008135													X
12	TB	Mar 02, 2023		Water	S23-Ma0008136												X	

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Melbourne Laboratory - NATA # 1261 Site # 1254							X			X	X		X	X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217					X	X		X	X	X	X	X	X	X	X	X	X
13	SV01 FRONT	Mar 02, 2023		Air			X			X				X			
14	SV01 BACK	Mar 02, 2023		Air			X			X				X			
15	SV02 FRONT	Mar 02, 2023		Air			X			X				X			
16	SV02 BACK	Mar 02, 2023		Air			X			X				X			
17	DUP FRONT	Mar 02, 2023		Air			X			X				X			
18	DUP BACK	Mar 02, 2023		Air			X			X				X			
19	FB FRONT	Mar 02, 2023		Air			X			X				X			
20	FB BACK	Mar 02, 2023		Air			X			X				X			
21	BH05_0.5-0.6	Mar 02, 2023		Soil		X											
22	BH06_0.2-0.3	Mar 02, 2023		Soil		X											
23	BH06_0.5-0.6	Mar 02, 2023		Soil		X											
24	BH09_0.3-0.4	Mar 02, 2023		Soil		X											
25	BH09_0.6-0.7	Mar 02, 2023		Soil		X											
26	BH11_0.2-0.3	Mar 02, 2023		Soil		X											
27	BH11_0.3-0.4	Mar 02, 2023		Soil		X											

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179 Magowar Road
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Tel: +61 2 9900 8400
NATA# 1261 Site# 18217

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Unit 1,2 Dacre Street
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Tel: +61 2 6113 8091
NATA# 1261 Site# 25466

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1/21 Smallwood Place
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NATA# 1261 Site# 20794

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Tel: +61 2 4968 8448
NATA# 1261
Site# 25079 & 25289

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Welshpool
WA 6106
Tel: +61 8 6253 4444
NATA# 2377 Site# 2370

Auckland
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Penrose
Auckland 1061
Tel: +64 9 526 45 51
IANZ# 1327

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

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Melbourne Laboratory - NATA # 1261 Site # 1254								X				X	X		X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X		X	X	X	X	X	X	X	X	X	X
28	BH11_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008152		X											
29	BH12_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008153		X											
30	BH12_0.4-0.5	Mar 02, 2023		Soil	S23-Ma0008154		X											
Test Counts						5	10	8	6	10	4	8	6	9	8	10	1	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 the colour **blue** 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 the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

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:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (% w/w)
F/field	Airborne fibre filter loading as Fibres (N) per Fields counted (n)
F/mL	Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (C)
g, kg	Mass, e.g. of whole sample (M) or asbestos-containing find within the sample (m)
g/kg	Concentration in grams per kilogram
L, mL	Volume, e.g. of air as measured in AFM (V = r x t)
L/min	Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (r)
min	Time (t), e.g. of air sample collection period

Calculations

Airborne Fibre Concentration:
$$C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right)$$

Asbestos Content (as asbestos):
$$\% w/w = \frac{(m \times P_A)}{M}$$

Weighted Average (of asbestos):
$$\%_{WA} = \frac{\sum (m \times P_A)_x}{x}$$

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2 (PA)</i> .
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.
AF	Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".
AFM	Airborne Fibre Monitoring, e.g. by the MFM.
Amosite	Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.
AS	Australian Standard.
Asbestos Content (as asbestos)	Total % w/w asbestos content in asbestos-containing finds in a soil sample (% w/w).
Chrysotile	Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.
COC	Chain of Custody.
Crocidolite	Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.
Dry	Sample is dried by heating prior to analysis.
DS	Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.
FA	Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF.
Fibre Count	Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003
Fibre ID	Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.
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.
HSG248	UK HSE HSG248, <i>Asbestos: The Analysts Guide</i> , 2nd Edition (2021).
HSG264	UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (2012).
ISO (also ISO/IEC)	International Organization for Standardization / International Electrotechnical Commission.
K Factor	Microscope constant (K) as derived from the effective filter area of the given AFM membrane used for collecting the sample (A) and the projected eyepiece graticule area of the specific microscope used for the analysis (a).
LOR	Limit of Reporting.
MFM (also NOHSC:3003)	Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 2nd Edition [NOHSC:3003(2005)].
NEPM (also ASC NEPM)	National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).
Organic	Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.
PCM	Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.
PLM	Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
SMF	Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.
SRA	Sample Receipt Advice.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.
UK HSE HSG	United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.
UMF	Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.
WA DOH	Reference document for the NEPM. Government of Western Australia, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>
Weighted Average	Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (%_{WA}).

Comments

23-Ma0008131: Sample received was 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

Asbestos Counter/Identifier:

Laxman Dias Senior Analyst-Asbestos

Authorised by:

Chamath JHM Annakkage Senior Analyst-Asbestos



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



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Accreditation Number 1261
Site Number 18217

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 Arrangement for the mutual recognition of the
 equivalence of testing, medical testing, calibration,
 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: Alison Smith

Report 968779-S
 Project name NTH SYD
 Project ID 64150
 Received Date Mar 02, 2023

Client Sample ID			BH01_0-0.1	BH02_0.1-0.2	BH05_0.2-0.3	BH06_0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23- Ma0008125	S23- Ma0008126	S23- Ma0008127	S23- Ma0008128
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
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	210	330	< 50	< 50
TRH C29-C36	50	mg/kg	140	250	< 50	< 50
TRH C10-C36 (Total)	50	mg/kg	350	580	< 50	< 50
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	300	540	< 100	< 100
TRH >C34-C40	100	mg/kg	< 100	190	< 100	< 100
TRH >C10-C40 (total)*	100	mg/kg	300	730	< 100	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	87	126	133	115
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	6.7	34	3.8	37
Cadmium	0.4	mg/kg	0.5	5.5	< 0.4	< 0.4
Chromium	5	mg/kg	15	48	120	25
Copper	5	mg/kg	480	1100	42	58
Lead	5	mg/kg	2100	4700	13	25
Mercury	0.1	mg/kg	0.4	1.3	< 0.1	< 0.1
Nickel	5	mg/kg	7.5	34	100	93
Zinc	5	mg/kg	1100	2600	91	48
Sample Properties						
% Moisture	1	%	4.5	17	14	18

Client Sample ID			BH01_0-0.1	BH02_0.1-0.2	BH05_0.2-0.3	BH06_0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23- Ma0008125	S23- Ma0008126	S23- Ma0008127	S23- Ma0008128
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	-	< 0.5	< 0.5	-
1.3.5-Trimethylbenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	-	< 0.5	< 0.5	-
2-Propanone (Acetone)	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	-	< 0.5	< 0.5	-
Allyl chloride	0.5	mg/kg	-	< 0.5	< 0.5	-
Benzene	0.1	mg/kg	-	< 0.1	< 0.1	-
Bromobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromochloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromodichloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromoform	0.5	mg/kg	-	< 0.5	< 0.5	-
Bromomethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Carbon disulfide	0.5	mg/kg	-	< 0.5	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	-	< 0.5	< 0.5	-
Chlorobenzene	0.5	mg/kg	-	< 0.5	< 0.5	-
Chloroethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Chloroform	0.5	mg/kg	-	< 0.5	< 0.5	-
Chloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibromochloromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Dibromomethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	< 0.1	-
Iodomethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	-	< 0.5	< 0.5	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	< 0.2	-
Methylene Chloride	0.5	mg/kg	-	< 0.5	< 0.5	-
o-Xylene	0.1	mg/kg	-	< 0.1	< 0.1	-
Styrene	0.5	mg/kg	-	< 0.5	< 0.5	-
Tetrachloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
Toluene	0.1	mg/kg	-	< 0.1	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	-	< 0.5	< 0.5	-

Client Sample ID			BH01_0-0.1	BH02_0.1-0.2	BH05_0.2-0.3	BH06_0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23- Ma0008125	S23- Ma0008126	S23- Ma0008127	S23- Ma0008128
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
Volatile Organics						
Trichloroethene	0.5	mg/kg	-	< 0.5	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	-	< 0.5	< 0.5	-
Vinyl chloride	0.5	mg/kg	-	< 0.5	< 0.5	-
Xylenes - Total*	0.3	mg/kg	-	< 0.3	< 0.3	-
Total MAH*	0.5	mg/kg	-	< 0.5	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	-	< 0.5	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	-	< 0.5	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	-	126	133	-
Toluene-d8 (surr.)	1	%	-	106	144	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	-	9.7	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	-	9.7	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	-	9.7	1.2	-
Acenaphthene	0.5	mg/kg	-	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	-	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	-	1.3	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	-	6.0	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	-	6.6	< 0.5	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	-	4.7	< 0.5	-
Benzo(g,h,i)perylene	0.5	mg/kg	-	5.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	-	5.8	< 0.5	-
Chrysene	0.5	mg/kg	-	6.5	< 0.5	-
Dibenz(a,h)anthracene	0.5	mg/kg	-	1.0	< 0.5	-
Fluoranthene	0.5	mg/kg	-	8.6	< 0.5	-
Fluorene	0.5	mg/kg	-	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	-	3.3	< 0.5	-
Naphthalene	0.5	mg/kg	-	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	-	2.8	< 0.5	-
Pyrene	0.5	mg/kg	-	10.0	< 0.5	-
Total PAH*	0.5	mg/kg	-	62	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	-	108	91	-
p-Terphenyl-d14 (surr.)	1	%	-	115	106	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 0.1	-
4,4'-DDD	0.05	mg/kg	-	-	< 0.05	-
4,4'-DDE	0.05	mg/kg	-	-	< 0.05	-
4,4'-DDT	0.05	mg/kg	-	-	< 0.05	-
a-HCH	0.05	mg/kg	-	-	< 0.05	-
Aldrin	0.05	mg/kg	-	-	0.38	-
b-HCH	0.05	mg/kg	-	-	< 0.05	-
d-HCH	0.05	mg/kg	-	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	-	0.16	-
Endosulfan I	0.05	mg/kg	-	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.05	-
Endrin	0.05	mg/kg	-	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	-	< 0.05	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.05	-

Client Sample ID			BH01_0-0.1	BH02_0.1-0.2	BH05_0.2-0.3	BH06_0.1-0.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23- Ma0008125	S23- Ma0008126	S23- Ma0008127	S23- Ma0008128
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Heptachlor	0.05	mg/kg	-	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	-	< 0.05	-
Toxaphene	0.5	mg/kg	-	-	< 0.5	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	0.54	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.05	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	0.54	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	102	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	101	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	-	102	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	101	-

Client Sample ID			BH09_0.2-0.3	BH10_0.1-0.2	BH11_0-0.1	BH12_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23- Ma0008129	S23- Ma0008130	S23- Ma0008131	S23- Ma0008132
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	20	mg/kg	< 20	< 20	< 20	< 20
TRH C10-C14	20	mg/kg	< 20	< 20	< 20	< 20
TRH C15-C28	50	mg/kg	< 50	< 50	160	< 50
TRH C29-C36	50	mg/kg	< 50	< 50	120	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50	< 50	280	< 50
TRH C6-C10	20	mg/kg	< 20	< 20	< 20	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20	< 20	< 20	< 20
TRH >C10-C16	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50	< 50	< 50	< 50
TRH >C16-C34	100	mg/kg	< 100	< 100	220	< 100
TRH >C34-C40	100	mg/kg	< 100	< 100	100	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100	< 100	320	< 100
BTEX						
Benzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Toluene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
o-Xylene	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1

Client Sample ID			BH09_0.2-0.3	BH10_0.1-0.2	BH11_0.0-1	BH12_0.0-1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23- Ma0008129	S23- Ma0008130	S23- Ma0008131	S23- Ma0008132
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
BTEX						
Xylenes - Total*	0.3	mg/kg	< 0.3	< 0.3	< 0.3	< 0.3
4-Bromofluorobenzene (surr.)	1	%	86	72	117	79
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{N02}	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5
Heavy Metals						
Arsenic	2	mg/kg	< 2	6.8	20	8.3
Cadmium	0.4	mg/kg	< 0.4	0.5	0.5	1.2
Chromium	5	mg/kg	53	15	21	30
Copper	5	mg/kg	65	62	80	62
Lead	5	mg/kg	< 5	400	510	2200
Mercury	0.1	mg/kg	< 0.1	< 0.1	0.2	0.5
Nickel	5	mg/kg	230	32	7.6	10
Zinc	5	mg/kg	88	440	550	2800
Sample Properties						
% Moisture	1	%	13	22	33	22
Volatile Organics						
1.1-Dichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.1-Trichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.1.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.2-Trichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.1.2.2-Tetrachloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dibromoethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dichloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2-Dichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2.3-Trichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.2.4-Trimethylbenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.3-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.3-Dichloropropane	0.5	mg/kg	< 0.5	-	< 0.5	-
1.3.5-Trimethylbenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
1.4-Dichlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Butanone (MEK)	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Propanone (Acetone)	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Chlorotoluene	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Methyl-2-pentanone (MIBK)	0.5	mg/kg	< 0.5	-	< 0.5	-
Allyl chloride	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzene	0.1	mg/kg	< 0.1	-	< 0.1	-
Bromobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromochloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromodichloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromoform	0.5	mg/kg	< 0.5	-	< 0.5	-
Bromomethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Carbon disulfide	0.5	mg/kg	< 0.5	-	< 0.5	-
Carbon Tetrachloride	0.5	mg/kg	< 0.5	-	< 0.5	-
Chlorobenzene	0.5	mg/kg	< 0.5	-	< 0.5	-
Chloroethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Chloroform	0.5	mg/kg	< 0.5	-	< 0.5	-

Client Sample ID			BH09_0.2-0.3	BH10_0.1-0.2	BH11_0.0-1	BH12_0.0-1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23- Ma0008129	S23- Ma0008130	S23- Ma0008131	S23- Ma0008132
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
Volatile Organics						
Chloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
cis-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
cis-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibromochloromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibromomethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Dichlorodifluoromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	< 0.1	-
Iodomethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Isopropyl benzene (Cumene)	0.5	mg/kg	< 0.5	-	< 0.5	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	< 0.2	-
Methylene Chloride	0.5	mg/kg	< 0.5	-	< 0.5	-
o-Xylene	0.1	mg/kg	< 0.1	-	< 0.1	-
Styrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Tetrachloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
Toluene	0.1	mg/kg	< 0.1	-	< 0.1	-
trans-1.2-Dichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
trans-1.3-Dichloropropene	0.5	mg/kg	< 0.5	-	< 0.5	-
Trichloroethene	0.5	mg/kg	< 0.5	-	< 0.5	-
Trichlorofluoromethane	0.5	mg/kg	< 0.5	-	< 0.5	-
Vinyl chloride	0.5	mg/kg	< 0.5	-	< 0.5	-
Xylenes - Total*	0.3	mg/kg	< 0.3	-	< 0.3	-
Total MAH*	0.5	mg/kg	< 0.5	-	< 0.5	-
Vic EPA IWRG 621 CHC (Total)*	0.5	mg/kg	< 0.5	-	< 0.5	-
Vic EPA IWRG 621 Other CHC (Total)*	0.5	mg/kg	< 0.5	-	< 0.5	-
4-Bromofluorobenzene (surr.)	1	%	86	-	117	-
Toluene-d8 (surr.)	1	%	109	-	146	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(b&j)fluoranthene ^{N07}	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(g,h,i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibenz(a,h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	100	-	107	-
p-Terphenyl-d14 (surr.)	1	%	118	-	106	-

Client Sample ID			BH09_0.2-0.3	BH10_0.1-0.2	BH11_0-0.1	BH12_0-0.1
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			S23- Ma0008129	S23- Ma0008130	S23- Ma0008131	S23- Ma0008132
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit				
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	-	-	< 1	-
4.4'-DDD	0.05	mg/kg	-	-	< 0.5	-
4.4'-DDE	0.05	mg/kg	-	-	< 0.5	-
4.4'-DDT	0.05	mg/kg	-	-	< 0.5	-
a-HCH	0.05	mg/kg	-	-	< 0.5	-
Aldrin	0.05	mg/kg	-	-	< 0.5	-
b-HCH	0.05	mg/kg	-	-	< 0.5	-
d-HCH	0.05	mg/kg	-	-	< 0.5	-
Dieldrin	0.05	mg/kg	-	-	< 0.5	-
Endosulfan I	0.05	mg/kg	-	-	< 0.5	-
Endosulfan II	0.05	mg/kg	-	-	< 0.5	-
Endosulfan sulphate	0.05	mg/kg	-	-	< 0.5	-
Endrin	0.05	mg/kg	-	-	< 0.5	-
Endrin aldehyde	0.05	mg/kg	-	-	< 0.5	-
Endrin ketone	0.05	mg/kg	-	-	< 0.5	-
g-HCH (Lindane)	0.05	mg/kg	-	-	< 0.5	-
Heptachlor	0.05	mg/kg	-	-	< 0.5	-
Heptachlor epoxide	0.05	mg/kg	-	-	< 0.5	-
Hexachlorobenzene	0.05	mg/kg	-	-	< 0.5	-
Methoxychlor	0.05	mg/kg	-	-	< 0.5	-
Toxaphene	0.5	mg/kg	-	-	< 10	-
Aldrin and Dieldrin (Total)*	0.05	mg/kg	-	-	< 0.5	-
DDT + DDE + DDD (Total)*	0.05	mg/kg	-	-	< 0.5	-
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	-	-	< 1	-
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	-	-	< 1	-
Dibutylchlorendate (surr.)	1	%	-	-	89	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	106	-
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	-	-	< 1	-
Aroclor-1221	0.1	mg/kg	-	-	< 1	-
Aroclor-1232	0.1	mg/kg	-	-	< 1	-
Aroclor-1242	0.1	mg/kg	-	-	< 1	-
Aroclor-1248	0.1	mg/kg	-	-	< 1	-
Aroclor-1254	0.1	mg/kg	-	-	< 1	-
Aroclor-1260	0.1	mg/kg	-	-	< 1	-
Total PCB*	0.1	mg/kg	-	-	< 1	-
Dibutylchlorendate (surr.)	1	%	-	-	89	-
Tetrachloro-m-xylene (surr.)	1	%	-	-	106	-

Client Sample ID			QC20230302
Sample Matrix			Soil
Eurofins Sample No.			S23- Ma0008133
Date Sampled			Mar 02, 2023
Test/Reference	LOR	Unit	
Total Recoverable Hydrocarbons			
TRH C6-C9	20	mg/kg	< 20
TRH C10-C14	20	mg/kg	< 20
TRH C15-C28	50	mg/kg	< 50
TRH C29-C36	50	mg/kg	< 50
TRH C10-C36 (Total)	50	mg/kg	< 50
TRH C6-C10	20	mg/kg	< 20
TRH C6-C10 less BTEX (F1) ^{N04}	20	mg/kg	< 20
TRH >C10-C16	50	mg/kg	< 50
TRH >C10-C16 less Naphthalene (F2) ^{N01}	50	mg/kg	< 50
TRH >C16-C34	100	mg/kg	< 100
TRH >C34-C40	100	mg/kg	< 100
TRH >C10-C40 (total)*	100	mg/kg	< 100
BTEX			
Benzene	0.1	mg/kg	< 0.1
Toluene	0.1	mg/kg	< 0.1
Ethylbenzene	0.1	mg/kg	< 0.1
m&p-Xylenes	0.2	mg/kg	< 0.2
o-Xylene	0.1	mg/kg	< 0.1
Xylenes - Total*	0.3	mg/kg	< 0.3
4-Bromofluorobenzene (surr.)	1	%	133
Total Recoverable Hydrocarbons - 2013 NEPM Fractions			
Naphthalene ^{N02}	0.5	mg/kg	< 0.5
Heavy Metals			
Arsenic	2	mg/kg	3.2
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	140
Copper	5	mg/kg	37
Lead	5	mg/kg	6.3
Mercury	0.1	mg/kg	< 0.1
Nickel	5	mg/kg	120
Zinc	5	mg/kg	93
Sample Properties			
% Moisture	1	%	13
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

Client Sample ID			QC20230302
Sample Matrix			Soil
Eurofins Sample No.			S23- Ma0008133
Date Sampled			Mar 02, 2023
Test/Reference	LOR	Unit	
Volatile Organics			
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
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	%	133
Toluene-d8 (surr.)	1	%	145
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

Client Sample ID			QC20230302
Sample Matrix			Soil
Eurofins Sample No.			S23- Ma0008133
Date Sampled			Mar 02, 2023
Test/Reference	LOR	Unit	
Polycyclic Aromatic Hydrocarbons			
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	%	93
p-Terphenyl-d14 (surr.)	1	%	115
Organochlorine Pesticides			
Chlordanes - Total	0.1	mg/kg	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05
4.4'-DDE	0.05	mg/kg	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05
a-HCH	0.05	mg/kg	< 0.05
Aldrin	0.05	mg/kg	1.5
b-HCH	0.05	mg/kg	< 0.05
d-HCH	0.05	mg/kg	< 0.05
Dieldrin	0.05	mg/kg	0.59
Endosulfan I	0.05	mg/kg	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05
Endrin	0.05	mg/kg	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05
g-HCH (Lindane)	0.05	mg/kg	< 0.05
Heptachlor	0.05	mg/kg	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05
Toxaphene	0.5	mg/kg	< 0.5
Aldrin and Dieldrin (Total)*	0.05	mg/kg	2.09
DDT + DDE + DDD (Total)*	0.05	mg/kg	< 0.05
Vic EPA IWRG 621 OCP (Total)*	0.1	mg/kg	2.09
Vic EPA IWRG 621 Other OCP (Total)*	0.1	mg/kg	< 0.1
Dibutylchloroendate (surr.)	1	%	102
Tetrachloro-m-xylene (surr.)	1	%	102

Client Sample ID			QC20230302
Sample Matrix			Soil
Eurofins Sample No.			S23- Ma0008133
Date Sampled			Mar 02, 2023
Test/Reference	LOR	Unit	
Polychlorinated Biphenyls			
Aroclor-1016	0.1	mg/kg	< 0.1
Aroclor-1221	0.1	mg/kg	< 0.1
Aroclor-1232	0.1	mg/kg	< 0.1
Aroclor-1242	0.1	mg/kg	< 0.1
Aroclor-1248	0.1	mg/kg	< 0.1
Aroclor-1254	0.1	mg/kg	< 0.1
Aroclor-1260	0.1	mg/kg	< 0.1
Total PCB*	0.1	mg/kg	< 0.1
Dibutylchloroendate (surr.)	1	%	102
Tetrachloro-m-xylene (surr.)	1	%	102

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 06, 2023	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 06, 2023	14 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Sydney	Mar 06, 2023	14 Days
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 06, 2023	14 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Mar 06, 2023	28 Days
Volatile Organics - Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices	Sydney	Mar 06, 2023	7 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Mar 06, 2023	14 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Sydney	Mar 03, 2023	14 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Mar 06, 2023	14 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Mar 06, 2023	28 Days

ABN: 50 005 085 521

ABN: 91 05 0159 898

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Company Name:	JBS & G Australia (NSW) P/L	Order No.:		Received:	Mar 2, 2023 3:15 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	Report #:	968779	Due:	Mar 9, 2023
Project Name:	NTH SYD	Phone:	02 8245 0300	Priority:	5 Day
Project ID:	64150	Fax:		Contact Name:	Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	HOLD	Isopropanol	Polycyclic Aromatic Hydrocarbons	Metals M8	Suite B13: OCP/PCB	VOC AIR-TRH (Total Recoverable Hydrocarbons)	Volatile Organics	Moisture Set	VOCs in Ambient Air by GC/MS	Eurofins Suite B1	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254								X				X	X		X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X		X	X	X	X	X	X	X	X	X	X
External Laboratory																		
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID													
1	BH01_0-0.1	Mar 02, 2023		Soil	S23-Ma0008125	X			X					X		X		
2	BH02_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008126				X	X			X	X		X		
3	BH05_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008127	X			X	X	X		X	X		X		
4	BH06_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008128				X					X		X		
5	BH09_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008129	X			X	X			X	X		X		
6	BH10_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008130				X					X		X		
7	BH11_0-0.1	Mar 02, 2023		Soil	S23-Ma0008131	X			X	X	X		X	X		X		
8	BH12_0-0.1	Mar 02, 2023		Soil	S23-Ma0008132				X					X		X		
9	QC20230302	Mar 02, 2023		Soil	S23-Ma0008133	X			X	X	X		X	X		X		
10	RINS	Mar 02, 2023		Water	S23-Ma0008134				X	X	X		X			X		
11	TS	Mar 02, 2023		Water	S23-Ma0008135													X
12	TB	Mar 02, 2023		Water	S23-Ma0008136												X	

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Melbourne Laboratory - NATA # 1261 Site # 1254							X			X	X		X	X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217					X	X		X	X	X	X	X	X	X	X	X	X
13	SV01 FRONT	Mar 02, 2023		Air			X			X				X			
14	SV01 BACK	Mar 02, 2023		Air			X			X				X			
15	SV02 FRONT	Mar 02, 2023		Air			X			X				X			
16	SV02 BACK	Mar 02, 2023		Air			X			X				X			
17	DUP FRONT	Mar 02, 2023		Air			X			X				X			
18	DUP BACK	Mar 02, 2023		Air			X			X				X			
19	FB FRONT	Mar 02, 2023		Air			X			X				X			
20	FB BACK	Mar 02, 2023		Air			X			X				X			
21	BH05_0.5-0.6	Mar 02, 2023		Soil		X											
22	BH06_0.2-0.3	Mar 02, 2023		Soil		X											
23	BH06_0.5-0.6	Mar 02, 2023		Soil		X											
24	BH09_0.3-0.4	Mar 02, 2023		Soil		X											
25	BH09_0.6-0.7	Mar 02, 2023		Soil		X											
26	BH11_0.2-0.3	Mar 02, 2023		Soil		X											
27	BH11_0.3-0.4	Mar 02, 2023		Soil		X											

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Melbourne Laboratory - NATA # 1261 Site # 1254								X				X	X		X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X		X	X	X	X	X	X	X	X	X	X
28	BH11_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008152		X											
29	BH12_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008153		X											
30	BH12_0.4-0.5	Mar 02, 2023		Soil	S23-Ma0008154		X											
Test Counts						5	10	8	6	10	4	8	6	9	8	10	1	1

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 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.

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

µg/L: micrograms per litre

ppm: parts per million

ppb: parts per billion

%: Percentage

org/100 mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
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.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- 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.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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							
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	
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							
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	
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							
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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
4-Methyl-2-pentanone (MIBK)	mg/kg	< 0.5			0.5	Pass	
Allyl chloride	mg/kg	< 0.5			0.5	Pass	
Benzene	mg/kg	< 0.1			0.1	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	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
Iodomethane	mg/kg	< 0.5			0.5	Pass	
Isopropyl benzene (Cumene)	mg/kg	< 0.5			0.5	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
Methylene Chloride	mg/kg	< 0.5			0.5	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Styrene	mg/kg	< 0.5			0.5	Pass	
Tetrachloroethene	mg/kg	< 0.5			0.5	Pass	
Toluene	mg/kg	< 0.1			0.1	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	
Xylenes - Total*	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g,h,i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a,h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Chlordanes - Total	mg/kg	< 0.1		0.1	Pass	
4.4'-DDD	mg/kg	< 0.05		0.05	Pass	
4.4'-DDE	mg/kg	< 0.05		0.05	Pass	
4.4'-DDT	mg/kg	< 0.05		0.05	Pass	
a-HCH	mg/kg	< 0.05		0.05	Pass	
Aldrin	mg/kg	< 0.05		0.05	Pass	
b-HCH	mg/kg	< 0.05		0.05	Pass	
d-HCH	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-HCH (Lindane)	mg/kg	< 0.05		0.05	Pass	
Heptachlor	mg/kg	< 0.05		0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05		0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05		0.05	Pass	
Methoxychlor	mg/kg	< 0.05		0.05	Pass	
Toxaphene	mg/kg	< 0.5		0.5	Pass	
Method Blank						
Polychlorinated Biphenyls						
Aroclor-1016	mg/kg	< 0.1		0.1	Pass	
Aroclor-1221	mg/kg	< 0.1		0.1	Pass	
Aroclor-1232	mg/kg	< 0.1		0.1	Pass	
Aroclor-1242	mg/kg	< 0.1		0.1	Pass	
Aroclor-1248	mg/kg	< 0.1		0.1	Pass	
Aroclor-1254	mg/kg	< 0.1		0.1	Pass	
Aroclor-1260	mg/kg	< 0.1		0.1	Pass	
Total PCB*	mg/kg	< 0.1		0.1	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons						
TRH C6-C9	%	100		70-130	Pass	
TRH C10-C14	%	77		70-130	Pass	
TRH C6-C10	%	102		70-130	Pass	
TRH >C10-C16	%	78		70-130	Pass	
LCS - % Recovery						
BTEX						
Benzene	%	98		70-130	Pass	
Toluene	%	98		70-130	Pass	
Ethylbenzene	%	98		70-130	Pass	
m&p-Xylenes	%	106		70-130	Pass	
o-Xylene	%	112		70-130	Pass	
Xylenes - Total*	%	108		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene	%	104		70-130	Pass	
LCS - % Recovery						
Heavy Metals						
Arsenic	%	105		80-120	Pass	
Cadmium	%	101		80-120	Pass	
Chromium	%	102		80-120	Pass	
Copper	%	104		80-120	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Lead	%	104			80-120	Pass	
Mercury	%	101			80-120	Pass	
Nickel	%	103			80-120	Pass	
Zinc	%	105			80-120	Pass	
LCS - % Recovery							
Volatile Organics							
1.1-Dichloroethene	%	108			70-130	Pass	
1.1.1-Trichloroethane	%	91			70-130	Pass	
1.2-Dichlorobenzene	%	96			70-130	Pass	
1.2-Dichloroethane	%	92			70-130	Pass	
Benzene	%	77			70-130	Pass	
Ethylbenzene	%	76			70-130	Pass	
m&p-Xylenes	%	78			70-130	Pass	
o-Xylene	%	79			70-130	Pass	
Toluene	%	80			70-130	Pass	
Trichloroethene	%	95			70-130	Pass	
Xylenes - Total*	%	78			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	87			70-130	Pass	
Acenaphthylene	%	90			70-130	Pass	
Anthracene	%	90			70-130	Pass	
Benz(a)anthracene	%	85			70-130	Pass	
Benzo(a)pyrene	%	82			70-130	Pass	
Benzo(b&j)fluoranthene	%	84			70-130	Pass	
Benzo(g,h,i)perylene	%	87			70-130	Pass	
Benzo(k)fluoranthene	%	82			70-130	Pass	
Chrysene	%	85			70-130	Pass	
Dibenz(a,h)anthracene	%	77			70-130	Pass	
Fluoranthene	%	82			70-130	Pass	
Fluorene	%	89			70-130	Pass	
Indeno(1,2,3-cd)pyrene	%	80			70-130	Pass	
Naphthalene	%	89			70-130	Pass	
Phenanthrene	%	86			70-130	Pass	
Pyrene	%	79			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	81			70-130	Pass	
4,4'-DDD	%	78			70-130	Pass	
4,4'-DDE	%	83			70-130	Pass	
4,4'-DDT	%	75			70-130	Pass	
a-HCH	%	78			70-130	Pass	
Aldrin	%	75			70-130	Pass	
b-HCH	%	80			70-130	Pass	
d-HCH	%	79			70-130	Pass	
Dieldrin	%	79			70-130	Pass	
Endosulfan I	%	85			70-130	Pass	
Endosulfan II	%	73			70-130	Pass	
Endosulfan sulphate	%	75			70-130	Pass	
Endrin	%	73			70-130	Pass	
Endrin ketone	%	74			70-130	Pass	
g-HCH (Lindane)	%	81			70-130	Pass	
Heptachlor	%	82			70-130	Pass	
Heptachlor epoxide	%	82			70-130	Pass	

Test				Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Hexachlorobenzene				%	80		70-130	Pass	
Methoxychlor				%	100		70-130	Pass	
LCS - % Recovery									
Polychlorinated Biphenyls									
Aroclor-1260				%	84		70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons					Result 1				
TRH C10-C14	S23-Ma0007121	NCP	%	81			70-130	Pass	
TRH >C10-C16	S23-Ma0007121	NCP	%	82			70-130	Pass	
Spike - % Recovery									
Heavy Metals					Result 1				
Copper	W23-Fe0061030	NCP	%	100			75-125	Pass	
Lead	W23-Fe0061030	NCP	%	110			75-125	Pass	
Zinc	W23-Fe0061030	NCP	%	111			75-125	Pass	
Spike - % Recovery									
Heavy Metals					Result 1				
Arsenic	S23-Ma0008126	CP	%	94			75-125	Pass	
Cadmium	S23-Ma0008126	CP	%	97			75-125	Pass	
Chromium	S23-Ma0008126	CP	%	92			75-125	Pass	
Mercury	S23-Ma0008126	CP	%	88			75-125	Pass	
Nickel	S23-Ma0008126	CP	%	89			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons					Result 1				
TRH C6-C9	S23-Ma0008127	CP	%	110			70-130	Pass	
TRH C6-C10	S23-Ma0008127	CP	%	109			70-130	Pass	
Spike - % Recovery									
BTEX					Result 1				
Benzene	S23-Ma0008127	CP	%	94			70-130	Pass	
Toluene	S23-Ma0008127	CP	%	97			70-130	Pass	
Ethylbenzene	S23-Ma0008127	CP	%	94			70-130	Pass	
m&p-Xylenes	S23-Ma0008127	CP	%	97			70-130	Pass	
o-Xylene	S23-Ma0008127	CP	%	93			70-130	Pass	
Xylenes - Total*	S23-Ma0008127	CP	%	96			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					Result 1				
Naphthalene	S23-Ma0008127	CP	%	102			70-130	Pass	
Spike - % Recovery									
Volatile Organics					Result 1				
1.1-Dichloroethene	S23-Ma0008127	CP	%	128			70-130	Pass	
1.1.1-Trichloroethane	S23-Ma0008127	CP	%	82			70-130	Pass	
1.2-Dichlorobenzene	S23-Ma0008127	CP	%	99			70-130	Pass	
1.2-Dichloroethane	S23-Ma0008127	CP	%	91			70-130	Pass	
Trichloroethene	S23-Ma0008127	CP	%	89			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons					Result 1				
Acenaphthene	S23-Ma0008127	CP	%	94			70-130	Pass	
Acenaphthylene	S23-Ma0008127	CP	%	95			70-130	Pass	
Anthracene	S23-Ma0008127	CP	%	82			70-130	Pass	
Benz(a)anthracene	S23-Ma0008127	CP	%	94			70-130	Pass	
Benzo(a)pyrene	S23-Ma0008127	CP	%	99			70-130	Pass	
Benzo(b&j)fluoranthene	S23-Ma0008127	CP	%	97			70-130	Pass	
Benzo(g,h,i)perylene	S23-Ma0008127	CP	%	116			70-130	Pass	
Benzo(k)fluoranthene	S23-Ma0008127	CP	%	93			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Chrysene	S23-Ma0008127	CP	%	97			70-130	Pass	
Dibenz(a,h)anthracene	S23-Ma0008127	CP	%	95			70-130	Pass	
Fluoranthene	S23-Ma0008127	CP	%	89			70-130	Pass	
Fluorene	S23-Ma0008127	CP	%	93			70-130	Pass	
Indeno(1,2,3-cd)pyrene	S23-Ma0008127	CP	%	96			70-130	Pass	
Naphthalene	S23-Ma0008127	CP	%	91			70-130	Pass	
Phenanthrene	S23-Ma0008127	CP	%	90			70-130	Pass	
Pyrene	S23-Ma0008127	CP	%	87			70-130	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S23-Ma0014583	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C10-C14	S23-Ma0008125	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	S23-Ma0008125	CP	mg/kg	210	220	4.4	30%	Pass	
TRH C29-C36	S23-Ma0008125	CP	mg/kg	140	160	14	30%	Pass	
TRH C6-C10	S23-Ma0014583	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH >C10-C16	S23-Ma0008125	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	S23-Ma0008125	CP	mg/kg	300	320	8.4	30%	Pass	
TRH >C34-C40	S23-Ma0008125	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	S23-Ma0014583	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	S23-Ma0014583	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	S23-Ma0014583	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	S23-Ma0014583	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	S23-Ma0014583	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total*	S23-Ma0014583	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	S23-Ma0014583	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	S23-Ma0007277	NCP	mg/kg	5.8	5.3	8.8	30%	Pass	
Cadmium	S23-Ma0007277	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	S23-Ma0007277	NCP	mg/kg	18	16	12	30%	Pass	
Copper	S23-Ma0007277	NCP	mg/kg	37	39	7.2	30%	Pass	
Lead	S23-Ma0007277	NCP	mg/kg	21	20	6.1	30%	Pass	
Mercury	S23-Ma0007277	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Nickel	S23-Ma0007277	NCP	mg/kg	40	32	21	30%	Pass	
Zinc	S23-Ma0007277	NCP	mg/kg	82	88	6.6	30%	Pass	
Duplicate									
Sample Properties				Result 1	Result 2	RPD			
% Moisture	S23-Ma0007458	NCP	%	6.1	7.3	18	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Acenaphthylene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Anthracene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benz(a)anthracene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(a)pyrene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(b&j)fluoranthene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(g,h,i)perylene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Benzo(k)fluoranthene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Chrysene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	

Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Dibenz(a,h)anthracene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluoranthene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Fluorene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Indeno(1.2.3-cd)pyrene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Naphthalene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Phenanthrene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Pyrene	S23-Ma0003978	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	S23-Ma0003978	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
4,4'-DDD	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDE	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
4,4'-DDT	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
a-HCH	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Aldrin	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
b-HCH	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
d-HCH	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Dieldrin	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan I	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan II	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endosulfan sulphate	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin aldehyde	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Endrin ketone	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
g-HCH (Lindane)	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Heptachlor epoxide	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Hexachlorobenzene	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Methoxychlor	S23-Ma0003978	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass
Duplicate								
Polychlorinated Biphenyls				Result 1	Result 2	RPD		
Aroclor-1016	S23-Ma0003978	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1221	S23-Ma0003978	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1232	S23-Ma0003978	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1242	S23-Ma0003978	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1248	S23-Ma0003978	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1254	S23-Ma0003978	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Aroclor-1260	S23-Ma0003978	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass
Total PCB*	S23-Ma0003978	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Authorised by:

Andrew Black	Analytical Services Manager
Mickael Ros	Senior Analyst-Metal
Chamath JHM Annakkage	Senior Analyst-Asbestos
Roopesh Rangarajan	Senior Analyst-Volatile
Roopesh Rangarajan	Senior Analyst-Organic



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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JBS & G Australia (NSW) P/L
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Sydney
NSW 2000



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Accreditation Number 1261
Site Number 18217

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 inspection, proficiency testing scheme providers and
 reference materials producers reports and certificates.

Attention: **Alison Smith**

Report **968779-W**
 Project name **NTH SYD**
 Project ID **64150**
 Received Date **Mar 02, 2023**

Client Sample ID			RINS	TS	TB
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S23- Ma0008134	S23- Ma0008135	S23- Ma0008136
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	0.02	mg/L	< 0.02	-	< 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	-	-
TRH C6-C10	0.02	mg/L	< 0.02	-	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02	-	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	-	-
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	-	-
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	%	96	-	60
Volatile Organics					
1.1-Dichloroethane	0.001	mg/L	< 0.001	-	-
1.1-Dichloroethene	0.001	mg/L	< 0.001	-	-
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	-	-
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	-	-
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	-	-
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001	-	-
1.2-Dibromoethane	0.001	mg/L	< 0.001	-	-
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	-	-
1.2-Dichloroethane	0.001	mg/L	< 0.001	-	-
1.2-Dichloropropane	0.001	mg/L	< 0.001	-	-
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	-	-
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001	-	-
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	-	-
1.3-Dichloropropane	0.001	mg/L	< 0.001	-	-

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled Test/Reference	LOR	Unit	RINS Water S23- Ma0008134 Mar 02, 2023	TS Water S23- Ma0008135 Mar 02, 2023	TB Water S23- Ma0008136 Mar 02, 2023
Volatile Organics					
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	-	-
1.4-Dichlorobenzene	0.001	mg/L	< 0.001	-	-
2-Butanone (MEK)	0.005	mg/L	< 0.005	-	-
2-Propanone (Acetone)	0.005	mg/L	< 0.005	-	-
4-Chlorotoluene	0.001	mg/L	< 0.001	-	-
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	< 0.005	-	-
Allyl chloride	0.001	mg/L	< 0.001	-	-
Benzene	0.001	mg/L	< 0.001	-	-
Bromobenzene	0.001	mg/L	< 0.001	-	-
Bromochloromethane	0.001	mg/L	< 0.001	-	-
Bromodichloromethane	0.001	mg/L	< 0.001	-	-
Bromoform	0.001	mg/L	< 0.001	-	-
Bromomethane	0.005	mg/L	< 0.005	-	-
Carbon disulfide	0.001	mg/L	< 0.001	-	-
Carbon Tetrachloride	0.001	mg/L	< 0.001	-	-
Chlorobenzene	0.001	mg/L	< 0.001	-	-
Chloroethane	0.005	mg/L	< 0.005	-	-
Chloroform	0.005	mg/L	< 0.005	-	-
Chloromethane	0.005	mg/L	< 0.005	-	-
cis-1.2-Dichloroethene	0.001	mg/L	< 0.001	-	-
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001	-	-
Dibromochloromethane	0.001	mg/L	< 0.001	-	-
Dibromomethane	0.001	mg/L	< 0.001	-	-
Dichlorodifluoromethane	0.005	mg/L	< 0.005	-	-
Ethylbenzene	0.001	mg/L	< 0.001	-	-
Iodomethane	0.001	mg/L	< 0.001	-	-
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	-	-
m&p-Xylenes	0.002	mg/L	< 0.002	-	-
Methylene Chloride	0.005	mg/L	< 0.005	-	-
o-Xylene	0.001	mg/L	< 0.001	-	-
Styrene	0.001	mg/L	< 0.001	-	-
Tetrachloroethene	0.001	mg/L	< 0.001	-	-
Toluene	0.001	mg/L	< 0.001	-	-
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001	-	-
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001	-	-
Trichloroethene	0.001	mg/L	< 0.001	-	-
Trichlorofluoromethane	0.005	mg/L	< 0.005	-	-
Vinyl chloride	0.005	mg/L	< 0.005	-	-
Xylenes - Total*	0.003	mg/L	< 0.003	-	-
Total MAH*	0.003	mg/L	< 0.003	-	-
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	< 0.005	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	< 0.005	-	-
4-Bromofluorobenzene (surr.)	1	%	96	-	-
Toluene-d8 (surr.)	1	%	98	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene ^{NO2}	0.01	mg/L	< 0.01	-	-

Client Sample ID			RINS	TS	TB
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S23- Ma0008134	S23- Ma0008135	S23- Ma0008136
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-
Benzo(b&j)fluoranthene ^{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	%	72	-	-
p-Terphenyl-d14 (surr.)	1	%	^{Q09} INT	-	-
Organochlorine Pesticides					
Chlordanes - Total	0.002	mg/L	< 0.002	-	-
4,4'-DDD	0.0002	mg/L	< 0.0002	-	-
4,4'-DDE	0.0002	mg/L	< 0.0002	-	-
4,4'-DDT	0.0002	mg/L	< 0.0002	-	-
a-HCH	0.0002	mg/L	< 0.0002	-	-
Aldrin	0.0002	mg/L	< 0.0002	-	-
b-HCH	0.0002	mg/L	< 0.0002	-	-
d-HCH	0.0002	mg/L	< 0.0002	-	-
Dieldrin	0.0002	mg/L	< 0.0002	-	-
Endosulfan I	0.0002	mg/L	< 0.0002	-	-
Endosulfan II	0.0002	mg/L	< 0.0002	-	-
Endosulfan sulphate	0.0002	mg/L	< 0.0002	-	-
Endrin	0.0002	mg/L	< 0.0002	-	-
Endrin aldehyde	0.0002	mg/L	< 0.0002	-	-
Endrin ketone	0.0002	mg/L	< 0.0002	-	-
g-HCH (Lindane)	0.0002	mg/L	< 0.0002	-	-
Heptachlor	0.0002	mg/L	< 0.0002	-	-
Heptachlor epoxide	0.0002	mg/L	< 0.0002	-	-
Hexachlorobenzene	0.0002	mg/L	< 0.0002	-	-
Methoxychlor	0.0002	mg/L	< 0.0002	-	-
Toxaphene	0.005	mg/L	< 0.005	-	-
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	-	-
Dibutylchloroendate (surr.)	1	%	^{Q09} INT	-	-
Tetrachloro-m-xylene (surr.)	1	%	141	-	-

Client Sample ID Sample Matrix Eurofins Sample No. Date Sampled			RINS Water S23- Ma0008134 Mar 02, 2023	TS Water S23- Ma0008135 Mar 02, 2023	TB Water S23- Ma0008136 Mar 02, 2023
Test/Reference	LOR	Unit			
Polychlorinated Biphenyls					
Aroclor-1016	0.005	mg/L	< 0.005	-	-
Aroclor-1221	0.005	mg/L	< 0.005	-	-
Aroclor-1232	0.005	mg/L	< 0.005	-	-
Aroclor-1242	0.005	mg/L	< 0.005	-	-
Aroclor-1248	0.005	mg/L	< 0.005	-	-
Aroclor-1254	0.005	mg/L	< 0.005	-	-
Aroclor-1260	0.005	mg/L	< 0.005	-	-
Total PCB*	0.005	mg/L	< 0.005	-	-
Dibutylchloroendate (surr.)	1	%	^{Q09} INT	-	-
Tetrachloro-m-xylene (surr.)	1	%	141	-	-
Heavy Metals					
Arsenic	0.001	mg/L	< 0.001	-	-
Cadmium	0.0002	mg/L	< 0.0002	-	-
Chromium	0.001	mg/L	< 0.001	-	-
Copper	0.001	mg/L	< 0.001	-	-
Lead	0.001	mg/L	< 0.001	-	-
Mercury	0.0001	mg/L	< 0.0001	-	-
Nickel	0.001	mg/L	< 0.001	-	-
Zinc	0.005	mg/L	< 0.005	-	-
TRH C6-C10					
TRH C6-C10	1	%	-	81	-
Naphthalene^{N02}					
Naphthalene ^{N02}	0.01	mg/L	-	-	< 0.01
Total Recoverable Hydrocarbons					
Naphthalene	1	%	-	88	-
TRH C6-C9	1	%	-	85	-
BTEX					
Benzene	1	%	-	100	-
Ethylbenzene	1	%	-	87	-
m&p-Xylenes	1	%	-	89	-
o-Xylene	1	%	-	85	-
Toluene	1	%	-	88	-
Xylenes - Total	1	%	-	86	-
4-Bromofluorobenzene (surr.)	1	%	-	^{Q09} INT	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 03, 2023	7 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 03, 2023	7 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 03, 2023	7 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Sydney	Mar 03, 2023	14 Days
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Mar 03, 2023	7 Days
Volatile Organics - Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices	Sydney	Mar 03, 2023	7 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Mar 03, 2023	7 Days
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Mar 03, 2023	28 Days
Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Mar 03, 2023	7 Days
Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water	Sydney	Mar 03, 2023	7 Days

Melbourne
 6 Monterey Road
 Dandenong South
 VIC 3175
 Tel: +61 3 8564 5000
 NATA# 1261 Site# 1254

Geelong
 19/8 Lewalan Street
 Grovedale
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 Tel: +61 3 8564 5000
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Sydney
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 Girraween
 NSW 2145
 Tel: +61 2 9900 8400
 NATA# 1261 Site# 18217

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 Mitchell
 ACT 2911
 Tel: +61 2 6113 8091
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 Tel: +61 7 3902 4600
 NATA# 1261 Site# 20794

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 1/2 Frost Drive
 Mayfield West NSW 2304
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 NATA# 1261
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 email: EnviroSales@eurofins.com

Company Name:	JBS & G Australia (NSW) P/L	Order No.:		Received:	Mar 2, 2023 3:15 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	Report #:	968779	Due:	Mar 9, 2023
Project Name:	NTH SYD	Phone:	02 8245 0300	Priority:	5 Day
Project ID:	64150	Fax:		Contact Name:	Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	HOLD	Isopropanol	Polycyclic Aromatic Hydrocarbons	Metals M8	Suite B13: OCP/PCB	VOC AIR-TRH (Total Recoverable Hydrocarbons)	Volatile Organics	Moisture Set	VOCs in Ambient Air by GC/MS	Eurofins Suite B1	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254								X				X	X		X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X		X	X	X	X	X	X	X	X	X	X
External Laboratory																		
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID													
1	BH01_0-0.1	Mar 02, 2023		Soil	S23-Ma0008125	X			X					X		X		
2	BH02_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008126				X	X			X	X		X		
3	BH05_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008127	X			X	X	X		X	X		X		
4	BH06_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008128				X					X		X		
5	BH09_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008129	X			X	X			X	X		X		
6	BH10_0.1-0.2	Mar 02, 2023		Soil	S23-Ma0008130				X					X		X		
7	BH11_0-0.1	Mar 02, 2023		Soil	S23-Ma0008131	X			X	X	X		X	X		X		
8	BH12_0-0.1	Mar 02, 2023		Soil	S23-Ma0008132				X					X		X		
9	QC20230302	Mar 02, 2023		Soil	S23-Ma0008133	X			X	X	X		X	X		X		
10	RINS	Mar 02, 2023		Water	S23-Ma0008134				X	X	X		X			X		
11	TS	Mar 02, 2023		Water	S23-Ma0008135													X
12	TB	Mar 02, 2023		Water	S23-Ma0008136												X	

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

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Project ID: 64150

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Fax:

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Contact Name: Alison Smith

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Melbourne Laboratory - NATA # 1261 Site # 1254							X			X	X		X	X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217					X	X		X	X	X	X	X	X	X	X	X	X
13	SV01 FRONT	Mar 02, 2023		Air			X			X				X			
14	SV01 BACK	Mar 02, 2023		Air			X			X				X			
15	SV02 FRONT	Mar 02, 2023		Air			X			X				X			
16	SV02 BACK	Mar 02, 2023		Air			X			X				X			
17	DUP FRONT	Mar 02, 2023		Air			X			X				X			
18	DUP BACK	Mar 02, 2023		Air			X			X				X			
19	FB FRONT	Mar 02, 2023		Air			X			X				X			
20	FB BACK	Mar 02, 2023		Air			X			X				X			
21	BH05_0.5-0.6	Mar 02, 2023		Soil		X											
22	BH06_0.2-0.3	Mar 02, 2023		Soil		X											
23	BH06_0.5-0.6	Mar 02, 2023		Soil		X											
24	BH09_0.3-0.4	Mar 02, 2023		Soil		X											
25	BH09_0.6-0.7	Mar 02, 2023		Soil		X											
26	BH11_0.2-0.3	Mar 02, 2023		Soil		X											
27	BH11_0.3-0.4	Mar 02, 2023		Soil		X											

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Sydney
NSW 2000

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Order No.:
Report #: 968779
Phone: 02 8245 0300
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Received: Mar 2, 2023 3:15 PM
Due: Mar 9, 2023
Priority: 5 Day
Contact Name: Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos - WA guidelines	HOLD	Isopropanol	Polycyclic Aromatic Hydrocarbons	Metals M8	Suite B13: OCP/PCB	VOC AIR-TRH (Total Recoverable Hydrocarbons)	Volatile Organics	Moisture Set	VOCs in Ambient Air by GC/MS	Eurofins Suite B1	BTEXN and Volatile TRH	BTEXN and Volatile TRH
Melbourne Laboratory - NATA # 1261 Site # 1254								X				X	X		X	X	X	X
Sydney Laboratory - NATA # 1261 Site # 18217						X	X		X	X	X	X	X	X	X	X	X	X
28	BH11_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008152		X											
29	BH12_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008153		X											
30	BH12_0.4-0.5	Mar 02, 2023		Soil	S23-Ma0008154		X											
Test Counts						5	10	8	6	10	4	8	6	9	8	10	1	1

Internal Quality Control Review and Glossary

General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 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.

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	µg/L: micrograms per litre
ppm: parts per million	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony forming unit		

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
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.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- 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.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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							
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	
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							
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							
Volatile Organics							
1.1-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.1-Dichloroethene	mg/L	< 0.001			0.001	Pass	
1.1.1-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.1.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dibromoethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.2-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.3-Trichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.4-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.3.5-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.4-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
2-Butanone (MEK)	mg/L	< 0.005			0.005	Pass	
2-Propanone (Acetone)	mg/L	< 0.005			0.005	Pass	
4-Chlorotoluene	mg/L	< 0.001			0.001	Pass	
4-Methyl-2-pentanone (MIBK)	mg/L	< 0.005			0.005	Pass	
Allyl chloride	mg/L	< 0.001			0.001	Pass	
Bromobenzene	mg/L	< 0.001			0.001	Pass	
Bromochloromethane	mg/L	< 0.001			0.001	Pass	
Bromodichloromethane	mg/L	< 0.001			0.001	Pass	
Bromoform	mg/L	< 0.001			0.001	Pass	
Bromomethane	mg/L	< 0.005			0.005	Pass	
Carbon disulfide	mg/L	< 0.001			0.001	Pass	
Carbon Tetrachloride	mg/L	< 0.001			0.001	Pass	
Chlorobenzene	mg/L	< 0.001			0.001	Pass	
Chloroethane	mg/L	< 0.005			0.005	Pass	
Chloroform	mg/L	< 0.005			0.005	Pass	
Chloromethane	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
cis-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
cis-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Dibromochloromethane	mg/L	< 0.001			0.001	Pass	
Dibromomethane	mg/L	< 0.001			0.001	Pass	
Dichlorodifluoromethane	mg/L	< 0.005			0.005	Pass	
Iodomethane	mg/L	< 0.001			0.001	Pass	
Isopropyl benzene (Cumene)	mg/L	< 0.001			0.001	Pass	
Methylene Chloride	mg/L	< 0.005			0.005	Pass	
Styrene	mg/L	< 0.001			0.001	Pass	
Tetrachloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Trichloroethene	mg/L	< 0.001			0.001	Pass	
Trichlorofluoromethane	mg/L	< 0.005			0.005	Pass	
Vinyl chloride	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/L	< 0.002			0.002	Pass	
4.4'-DDD	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDE	mg/L	< 0.0002			0.0002	Pass	
4.4'-DDT	mg/L	< 0.0002			0.0002	Pass	
a-HCH	mg/L	< 0.0002			0.0002	Pass	
Aldrin	mg/L	< 0.0002			0.0002	Pass	
b-HCH	mg/L	< 0.0002			0.0002	Pass	
d-HCH	mg/L	< 0.0002			0.0002	Pass	
Dieldrin	mg/L	< 0.0002			0.0002	Pass	
Endosulfan I	mg/L	< 0.0002			0.0002	Pass	
Endosulfan II	mg/L	< 0.0002			0.0002	Pass	
Endosulfan sulphate	mg/L	< 0.0002			0.0002	Pass	
Endrin	mg/L	< 0.0002			0.0002	Pass	
Endrin aldehyde	mg/L	< 0.0002			0.0002	Pass	
Endrin ketone	mg/L	< 0.0002			0.0002	Pass	
g-HCH (Lindane)	mg/L	< 0.0002			0.0002	Pass	
Heptachlor	mg/L	< 0.0002			0.0002	Pass	
Heptachlor epoxide	mg/L	< 0.0002			0.0002	Pass	
Hexachlorobenzene	mg/L	< 0.0002			0.0002	Pass	
Methoxychlor	mg/L	< 0.0002			0.0002	Pass	
Toxaphene	mg/L	< 0.005			0.005	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/L	< 0.005			0.005	Pass	
Aroclor-1221	mg/L	< 0.005			0.005	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	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	105			70-130	Pass	
TRH C10-C14	%	80			70-130	Pass	
TRH C6-C10	%	102			70-130	Pass	
TRH >C10-C16	%	85			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	115			70-130	Pass	
Toluene	%	103			70-130	Pass	
Ethylbenzene	%	104			70-130	Pass	
m&p-Xylenes	%	106			70-130	Pass	
o-Xylene	%	102			70-130	Pass	
Xylenes - Total*	%	105			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1.1.1-Trichloroethane	%	95			70-130	Pass	
1.2-Dichlorobenzene	%	100			70-130	Pass	
1.2-Dichloroethane	%	97			70-130	Pass	
Trichloroethene	%	89			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	104			70-130	Pass	
LCS - % Recovery							
Organochlorine Pesticides							
Chlordanes - Total	%	87			70-130	Pass	
4.4'-DDD	%	90			70-130	Pass	
4.4'-DDE	%	85			70-130	Pass	
4.4'-DDT	%	86			70-130	Pass	
a-HCH	%	91			70-130	Pass	
Aldrin	%	83			70-130	Pass	
b-HCH	%	92			70-130	Pass	
d-HCH	%	88			70-130	Pass	
Dieldrin	%	88			70-130	Pass	
Endosulfan I	%	84			70-130	Pass	
Endosulfan II	%	80			70-130	Pass	
Endosulfan sulphate	%	73			70-130	Pass	
Endrin	%	75			70-130	Pass	
Endrin aldehyde	%	79			70-130	Pass	
Endrin ketone	%	77			70-130	Pass	
g-HCH (Lindane)	%	94			70-130	Pass	
Heptachlor	%	105			70-130	Pass	
Heptachlor epoxide	%	90			70-130	Pass	
Hexachlorobenzene	%	84			70-130	Pass	
Methoxychlor	%	93			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Aroclor-1016				%	92			70-130	Pass	
Aroclor-1260				%	98			70-130	Pass	
LCS - % Recovery										
Heavy Metals										
Arsenic				%	90			80-120	Pass	
Cadmium				%	93			80-120	Pass	
Chromium				%	95			80-120	Pass	
Copper				%	96			80-120	Pass	
Lead				%	96			80-120	Pass	
Mercury				%	92			80-120	Pass	
Nickel				%	94			80-120	Pass	
Zinc				%	96			80-120	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery										
Total Recoverable Hydrocarbons					Result 1					
TRH C10-C14	S23-Ma0004555	NCP	%	92				70-130	Pass	
TRH >C10-C16	S23-Ma0004555	NCP	%	85				70-130	Pass	
Spike - % Recovery										
Polycyclic Aromatic Hydrocarbons					Result 1					
Acenaphthene	S23-Ma0010367	NCP	%	114				70-130	Pass	
Acenaphthylene	S23-Ma0010367	NCP	%	120				70-130	Pass	
Anthracene	S23-Ma0010367	NCP	%	100				70-130	Pass	
Fluoranthene	S23-Ma0010367	NCP	%	81				70-130	Pass	
Fluorene	S23-Ma0010367	NCP	%	116				70-130	Pass	
Naphthalene	S23-Ma0010367	NCP	%	110				70-130	Pass	
Phenanthrene	S23-Ma0010367	NCP	%	101				70-130	Pass	
Pyrene	S23-Ma0010367	NCP	%	81				70-130	Pass	
Spike - % Recovery										
Heavy Metals					Result 1					
Arsenic	N23-Ma0004360	NCP	%	112				75-125	Pass	
Cadmium	N23-Ma0004360	NCP	%	100				75-125	Pass	
Chromium	N23-Ma0004360	NCP	%	96				75-125	Pass	
Copper	N23-Ma0004360	NCP	%	94				75-125	Pass	
Lead	N23-Ma0004360	NCP	%	94				75-125	Pass	
Mercury	N23-Ma0004360	NCP	%	101				75-125	Pass	
Nickel	N23-Ma0004360	NCP	%	95				75-125	Pass	
Zinc	N23-Ma0004360	NCP	%	99				75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code
Duplicate										
Total Recoverable Hydrocarbons					Result 1	Result 2	RPD			
TRH C6-C9	S23-Ma0008580	NCP	mg/L	< 0.02	< 0.02	< 1		30%	Pass	
TRH C10-C14	S23-Fe0064416	NCP	mg/L	< 0.05	< 0.05	< 1		30%	Pass	
TRH C15-C28	S23-Fe0064416	NCP	mg/L	< 0.1	< 0.1	< 1		30%	Pass	
TRH C29-C36	S23-Fe0064416	NCP	mg/L	< 0.1	< 0.1	< 1		30%	Pass	
TRH C6-C10	S23-Ma0008580	NCP	mg/L	< 0.02	< 0.02	< 1		30%	Pass	
TRH >C10-C16	S23-Fe0064416	NCP	mg/L	< 0.05	< 0.05	< 1		30%	Pass	
TRH >C16-C34	S23-Fe0064416	NCP	mg/L	< 0.1	< 0.1	< 1		30%	Pass	
TRH >C34-C40	S23-Fe0064416	NCP	mg/L	< 0.1	< 0.1	< 1		30%	Pass	

Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	S23-Ma0008580	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Toluene	S23-Ma0008580	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Ethylbenzene	S23-Ma0008580	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
m&p-Xylenes	S23-Ma0008580	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
o-Xylene	S23-Ma0008580	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Xylenes - Total*	S23-Ma0008580	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S23-Ma0008580	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Acenaphthylene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Anthracene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benz(a)anthracene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(a)pyrene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(b&j)fluoranthene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(g,h,i)perylene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(k)fluoranthene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chrysene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibenz(a,h)anthracene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Pyrene	S23-Fe0064416	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Organochlorine Pesticides				Result 1	Result 2	RPD		
Chlordanes - Total	S23-Fe0064416	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass
4,4'-DDD	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
4,4'-DDE	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
4,4'-DDT	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
a-HCH	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Aldrin	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
b-HCH	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
d-HCH	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Dieldrin	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endosulfan I	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endosulfan II	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endosulfan sulphate	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endrin	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endrin aldehyde	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Endrin ketone	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
g-HCH (Lindane)	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Heptachlor	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Heptachlor epoxide	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Hexachlorobenzene	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Methoxychlor	S23-Fe0064416	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass

Duplicate								
Polychlorinated Biphenyls				Result 1	Result 2	RPD		
Aroclor-1016	S23-Fe0064416	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Aroclor-1221	S23-Fe0064416	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Aroclor-1232	S23-Fe0064416	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Aroclor-1242	S23-Fe0064416	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Aroclor-1248	S23-Fe0064416	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Aroclor-1254	S23-Fe0064416	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Aroclor-1260	S23-Fe0064416	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Total PCB*	S23-Fe0064416	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S23-Ma0005755	NCP	mg/L	0.003	0.003	<1	30%	Pass
Cadmium	S23-Ma0008134	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium	S23-Ma0008134	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper	S23-Ma0008134	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Lead	S23-Ma0008134	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury	S23-Ma0008134	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	S23-Ma0008134	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc	S23-Ma0008134	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
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
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC

Authorised by:

Andrew Black	Analytical Services Manager
Mickael Ros	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic
Roopesh Rangarajan	Senior Analyst-Volatile



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

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	Alison Smith

Sample Login Details

Your reference	64150, North Sydney
Envirolab Reference	317874
Date Sample Received	03/03/2023
Date Instructions Received	03/03/2023
Date Results Expected to be Reported	10/03/2023

Sample Condition

Samples received in appropriate condition for analysis	Yes
No. of Samples Provided	1 Soil
Turnaround Time Requested	Standard
Temperature on Receipt (°C)	10
Cooling Method	Ice Pack
Sampling Date Provided	YES

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200
Fax: 02 9910 6201
Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



Sample ID	VOCs in soil	VTRH(C6-C10)/BTEXN in Soil	svTRH (C10-C40) in Soil	PAHs in Soil	Organochlorine Pesticides in soil	PCBs in Soil	Acid Extractable metals in soil	Asbestos ID - soils NEPM - ASB-001
QA20230302	✓	✓	✓	✓	✓	✓	✓	✓

The '✓' indicates the testing you have requested. **THIS IS NOT A REPORT OF THE RESULTS.**

Additional Info

Sample storage - Waters are routinely disposed of approximately 1 month and soils approximately 2 months from receipt.

Requests for longer term sample storage must be received in writing.

Please contact the laboratory immediately if observed settled sediment present in water samples is to be included in the extraction and/or analysis (exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, Total Recoverable metals and PFAS analysis where solids are included by default.

TAT for Micro is dependent on incubation. This varies from 3 to 6 days.



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CERTIFICATE OF ANALYSIS 317874

Client Details

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

Sample Details

Your Reference	64150, North Sydney
Number of Samples	1 Soil
Date samples received	03/03/2023
Date completed instructions received	03/03/2023

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 10/03/2023

Date of Issue 10/03/2023

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Asbestos Approved By

Analysed by Asbestos Approved Analyst: Nyovan Moonean

Authorised by Asbestos Approved Signatory: Nyovan Moonean

Results Approved By

Kyle Gavrily, Senior Chemist

Loren Bardwell, Development Chemist

Nyovan Moonean, Asbestos Approved Identifier/Counter

Steven Luong, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in soil		
Our Reference		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
Date extracted	-	06/03/2023
Date analysed	-	07/03/2023
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		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
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	%	116
Surrogate aaa-Trifluorotoluene	%	89
Surrogate Toluene-d ₈	%	111
Surrogate 4-Bromofluorobenzene	%	90

vTRH(C6-C10)/BTEXN in Soil		
Our Reference		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
Date extracted	-	06/03/2023
Date analysed	-	07/03/2023
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	<1
Surrogate aaa-Trifluorotoluene	%	89

svTRH (C10-C40) in Soil		
Our Reference		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
Date extracted	-	06/03/2023
Date analysed	-	07/03/2023
TRH C ₁₀ - C ₁₄	mg/kg	<50
TRH C ₁₅ - C ₂₈	mg/kg	<100
TRH C ₂₉ - C ₃₆	mg/kg	<100
Total +ve TRH (C10-C36)	mg/kg	<50
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	<100
TRH >C ₃₄ -C ₄₀	mg/kg	<100
Total +ve TRH (>C10-C40)	mg/kg	<50
Surrogate o-Terphenyl	%	72

PAHs in Soil		
Our Reference		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
Date extracted	-	06/03/2023
Date analysed	-	08/03/2023
Naphthalene	mg/kg	<0.1
Acenaphthylene	mg/kg	<0.1
Acenaphthene	mg/kg	<0.1
Fluorene	mg/kg	<0.1
Phenanthrene	mg/kg	<0.1
Anthracene	mg/kg	<0.1
Fluoranthene	mg/kg	<0.1
Pyrene	mg/kg	<0.1
Benzo(a)anthracene	mg/kg	<0.1
Chrysene	mg/kg	<0.1
Benzo(b,j+k)fluoranthene	mg/kg	<0.2
Benzo(a)pyrene	mg/kg	<0.05
Indeno(1,2,3-c,d)pyrene	mg/kg	<0.1
Dibenzo(a,h)anthracene	mg/kg	<0.1
Benzo(g,h,i)perylene	mg/kg	<0.1
Total +ve PAH's	mg/kg	<0.05
Benzo(a)pyrene TEQ calc (zero)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(half)	mg/kg	<0.5
Benzo(a)pyrene TEQ calc(PQL)	mg/kg	<0.5
Surrogate <i>p</i> -Terphenyl-d14	%	89

Organochlorine Pesticides in soil		
Our Reference		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
Date extracted	-	06/03/2023
Date analysed	-	08/03/2023
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	%	89

PCBs in Soil		
Our Reference		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
Date extracted	-	06/03/2023
Date analysed	-	08/03/2023
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	%	89

Acid Extractable metals in soil		
Our Reference		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
Date prepared	-	06/03/2023
Date analysed	-	08/03/2023
Arsenic	mg/kg	<4
Cadmium	mg/kg	<0.4
Chromium	mg/kg	43
Copper	mg/kg	27
Lead	mg/kg	10
Mercury	mg/kg	<0.1
Nickel	mg/kg	36
Zinc	mg/kg	29

Moisture		
Our Reference		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
Date prepared	-	06/03/2023
Date analysed	-	07/03/2023
Moisture	%	19

Asbestos ID - soils NEPM - ASB-001		
Our Reference		317874-1
Your Reference	UNITS	QA20230302
Date Sampled		02/03/2023
Type of sample		Soil
Date analysed	-	07/03/2023
Sample mass tested	g	796.65
Sample Description	-	Grey clayey soil and 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	<p>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.</p> <p>Results reported denoted with * are outside our scope of NATA accreditation.</p> <p>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)</p> <p>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.</p> <p>Estimation = Estimated asbestos weight</p> <p>Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.</p>
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	<p>Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.</p> <p>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.</p>
Org-020	<p>Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.</p> <p>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.</p> <p>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).</p>
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.

Method ID	Methodology Summary
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.

Client Reference: 64150, North Sydney

QUALITY CONTROL: VOCs in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			06/03/2023	[NT]	[NT]	[NT]	[NT]	06/03/2023	[NT]
Date analysed	-			07/03/2023	[NT]	[NT]	[NT]	[NT]	07/03/2023	[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]	121	[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]	124	[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]	112	[NT]
1,1,1-trichloroethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	120	[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]	111	[NT]
bromodichloromethane	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	117	[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]	100	[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]	131	[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]

Client Reference: 64150, North Sydney

QUALITY CONTROL: VOCs in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[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]
<i>Surrogate</i> Dibromofluorometha	%		Org-023	104	[NT]	[NT]	[NT]	[NT]	101	[NT]
<i>Surrogate</i> aaa-Trifluorotoluene	%		Org-023	120	[NT]	[NT]	[NT]	[NT]	106	[NT]
<i>Surrogate</i> Toluene-d ₈	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	105	[NT]
<i>Surrogate</i> 4-Bromofluorobenzene	%		Org-023	112	[NT]	[NT]	[NT]	[NT]	106	[NT]

Client Reference: 64150, North Sydney

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			06/03/2023	[NT]	[NT]	[NT]	[NT]	06/03/2023	[NT]
Date analysed	-			07/03/2023	[NT]	[NT]	[NT]	[NT]	07/03/2023	[NT]
TRH C ₆ - C ₉	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	95	[NT]
TRH C ₆ - C ₁₀	mg/kg	25	Org-023	<25	[NT]	[NT]	[NT]	[NT]	95	[NT]
Benzene	mg/kg	0.2	Org-023	<0.2	[NT]	[NT]	[NT]	[NT]	99	[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]	92	[NT]
m+p-xylene	mg/kg	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	97	[NT]
o-Xylene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Naphthalene	mg/kg	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	93	[NT]	[NT]	[NT]	[NT]	106	[NT]

Client Reference: 64150, North Sydney

QUALITY CONTROL: svTRH (C10-C40) in Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-3	[NT]
Date extracted	-			06/03/2023	[NT]	[NT]	[NT]	[NT]	06/03/2023	[NT]
Date analysed	-			07/03/2023	[NT]	[NT]	[NT]	[NT]	07/03/2023	[NT]
TRH C ₁₀ - C ₁₄	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	83	[NT]
TRH C ₁₅ - C ₂₈	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH C ₂₉ - C ₃₆	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	129	[NT]
TRH >C ₁₀ -C ₁₆	mg/kg	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	83	[NT]
TRH >C ₁₆ -C ₃₄	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	80	[NT]
TRH >C ₃₄ -C ₄₀	mg/kg	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	129	[NT]
Surrogate o-Terphenyl	%		Org-020	81	[NT]	[NT]	[NT]	[NT]	78	[NT]

Client Reference: 64150, North Sydney

QUALITY CONTROL: PAHs in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			06/03/2023	[NT]	[NT]	[NT]	[NT]	06/03/2023	[NT]
Date analysed	-			08/03/2023	[NT]	[NT]	[NT]	[NT]	08/03/2023	[NT]
Naphthalene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	113	[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]	103	[NT]
Fluorene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Phenanthrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	116	[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]	112	[NT]
Pyrene	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	113	[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]	81	[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]	78	[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	87	[NT]	[NT]	[NT]	[NT]	89	[NT]

Client Reference: 64150, North Sydney

QUALITY CONTROL: Organochlorine Pesticides in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			06/03/2023	[NT]	[NT]	[NT]	[NT]	06/03/2023	[NT]
Date analysed	-			08/03/2023	[NT]	[NT]	[NT]	[NT]	08/03/2023	[NT]
alpha-BHC	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	114	[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]	112	[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]	111	[NT]
Heptachlor Epoxide	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	108	[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]	119	[NT]
Dieldrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Endrin	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	105	[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]	88	[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]	106	[NT]
Methoxychlor	mg/kg	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-022/025	91	[NT]	[NT]	[NT]	[NT]	93	[NT]

Client Reference: 64150, North Sydney

QUALITY CONTROL: PCBs in Soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-7	[NT]
Date extracted	-			06/03/2023	[NT]	[NT]	[NT]	[NT]	06/03/2023	[NT]
Date analysed	-			08/03/2023	[NT]	[NT]	[NT]	[NT]	08/03/2023	[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]	[NT]	[NT]
Aroclor 1260	mg/kg	0.1	Org-021	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate TCMX	%		Org-021	91	[NT]	[NT]	[NT]	[NT]	93	[NT]

Client Reference: 64150, North Sydney

QUALITY CONTROL: Acid Extractable metals in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			06/03/2023	[NT]	[NT]	[NT]	[NT]	06/03/2023	[NT]
Date analysed	-			08/03/2023	[NT]	[NT]	[NT]	[NT]	08/03/2023	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	100	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	96	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]

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.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

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.

1 DAY TAT ADDITIONAL LEACHATES: FW: Eurofins Test Results - Report 968779 : Site NTH SYD (64150)

Andrew Black <AndrewBlack@eurofins.com>

Mon 2023-03-13 9:36 AM

To: #AU25_Enviro_Sample_NSW <EnviroSampleNSW@eurofins.com>

 1 attachments (271 KB)

RE: Eurofins Test Results - Report 968779 : Site NTH SYD (64150);

INFO: INTERNAL EMAIL - Sent from your own Eurofins email domain.

Urgent 1 day TAT additional leachates thanks team

Andrew Black

Analytical Services Manager

Eurofins | Environment Testing Australia Pty Ltd

1 / 2 Frost Drive

Mayfield West, NSW, 2304

Phone: +61 2 9900 8490

Mobile: +61 410 220 750

Email: AndrewBlack@eurofins.com

Website: eurofins.com.au/environmental-testing



PLEASE NOTE: As of the 19th of December, please ensure all samples are delivered to our new site at: **Building 1 / 2 Frost Drive, Mayfield West.**



This e-mail including its attachments may contain confidential and proprietary information. Any unauthorized disclosure or use of this e-mail including its attachments is prohibited and may be prosecuted. If you are not the intended recipient, please inform the sender by an e-mail reply and delete the message. Transmission by e-mail is not secure and can result in errors or omissions in the content of the message. Despite state-of-the-art precautions we cannot guarantee that e-mails and attachments are free from viruses. We accept no liability for viruses or any transmission-related errors and omissions. You need to always virus-check any e-mails and attachments.

Eurofins companies are independent legal entities that are bound only by members of their management bodies. No other persons have representation power unless specifically authorised by proxy or other legal means.

For sample receipt enquiries (eg. SRAs, changes to analysis) please contact EnvirosampleNSW@eurofins.com or 02 9900 8421 (7am – 9pm).

For despatch enquiries (eg. courier bookings, bottle orders) please contact AU04_Despatch_SYD@eurofins.com or 0488 400 929 (8am – 4pm).

From: Alison Smith <alisonsmith@jbsg.com.au>
Sent: Monday, 13 March 2023 9:32 AM
To: Andrew Black <AndrewBlack@eurofins.com>
Cc: Andrew Cheok <acheok@jbsg.com.au>
Subject: RE: Eurofins Test Results - Report 968779 : Site NTH SYD (64150)

CAUTION: EXTERNAL EMAIL - Sent from an email domain that is not formally trusted by Eurofins.

Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi Andrew,

Can I please get the following TCLP on 24 hr TAT please.

BH02_0.1-0.2 for Lead and BaP.
QC20230302 for Chromium.
BH09_0.2-0.3 for Nickel.

Many thanks
Ali



Alison Smith | Project Manager | JBS&G

Gadigal Country | Level 1, 50 Margaret Street, Sydney, NSW

T: 02 8245 0300 | M: 0488 977 474 | E: alisonsmith@jbsg.com.au | W: jbsg.com.au | L: [Conditions and](#)

[Limitations](#)

Exceptional Outcomes

From: AndrewBlack@eurofins.com <AndrewBlack@eurofins.com>
Sent: Tuesday, 7 March 2023 7:22 PM
To: Alison Smith <alisonsmith@jbsg.com.au>
Cc: Andrew Cheok <acheok@jbsg.com.au>
Subject: Eurofins Test Results - Report 968779 : Site NTH SYD (64150)

*****[EXTERNAL EMAIL] Stop and think before opening attachments, clicking or responding.*****

Kindest Regards,

Andrew Black
Analytical Services Manager

Eurofins | Environment Testing

Unit 7

7 Friesian Close

SANDGATE NSW 2304

AUSTRALIA

Phone: +61 299 008 490

Mobile: +61 410 220 750

Email: AndrewBlack@eurofins.com

Website: <http://environment.eurofins.com.au>

[View our latest EnviroNotes](#)



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Microplastics Analysis

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Eurofins Environment Testing Australia Pty Ltd

ABN: 50 005 085 521

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NZBN: 9429046024954

Auckland	Christchurch
35 O'Rorke Road Penrose, Auckland 1061 Tel: +64 9 526 45 51 IANZ# 1327	43 Detroit Drive Rolleston, Christchurch 7675 Tel: 0800 856 450 IANZ# 1290

Sample Receipt Advice

Company name:	JBS & G Australia (NSW) P/L
Contact name:	Alison Smith
Project name:	ADDITIONAL - NTH SYD
Project ID:	ADDITIONAL - 64150
Turnaround time:	1 Day
Date/Time received	Mar 13, 2023 9:36 AM
Eurofins reference	971316

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ Sample Temperature of chilled sample on the batch as recorded by Eurofins Sample Receipt : 24.1 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

Contact

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

Andrew Black on phone : (+61) 2 9900 8490 or by email: AndrewBlack@eurofins.com

Results will be delivered electronically via email to Alison Smith - alisonsmith@jbsg.com.au.



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6 Monterey Road
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NATA# 1261 Site# 1254

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Christchurch 7675
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IANZ# 1290

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name:	JBS & G Australia (NSW) P/L	Order No.:		Received:	Mar 13, 2023 9:36 AM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	Report #:	971316	Due:	Mar 14, 2023
Project Name:	ADDITIONAL - NTH SYD	Phone:	02 8245 0300	Priority:	1 Day
Project ID:	ADDITIONAL - 64150	Fax:		Contact Name:	Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Benzo(a)pyrene	Chromium	Lead	Nickel	USA Leaching Procedure
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X
External Laboratory										
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	BH02_0.1-0.2	Mar 02, 2023		US Leachate	S23-Ma0030229	X		X		X
2	QC20230302	Mar 02, 2023		US Leachate	S23-Ma0030230		X			X
3	BH09_0.2-0.3	Mar 02, 2023		US Leachate	S23-Ma0030231				X	X
Test Counts						1	1	1	1	3

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

Attention: Alison Smith

Report 971316-L
 Project name ADDITIONAL - NTH SYD
 Project ID ADDITIONAL - 64150
 Received Date Mar 13, 2023

Client Sample ID			BH02_0.1-0.2	QC20230302	BH09_0.2-0.3
Sample Matrix			US Leachate	US Leachate	US Leachate
Eurofins Sample No.			S23-Ma0030229	S23-Ma0030230	S23-Ma0030231
Date Sampled			Mar 02, 2023	Mar 02, 2023	Mar 02, 2023
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-
Heavy Metals					
Chromium	0.05	mg/L	-	< 0.05	-
Lead	0.01	mg/L	4.0	-	-
Nickel	0.01	mg/L	-	-	0.12
USA Leaching Procedure					
Leachate Fluid ^{C01}		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	9.8	9.9	9.9
pH (off)	0.1	pH Units	5.5	5.7	5.3
pH (USA HCl addition)	0.1	pH Units	3.0	2.5	2.3

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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 - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Mar 13, 2023	7 Days
Heavy Metals - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Mar 13, 2023	28 Days
USA Leaching Procedure - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Sydney	Mar 13, 2023	14 Days

Company Name:	JBS & G Australia (NSW) P/L	Order No.:		Received:	Mar 13, 2023 9:36 AM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	Report #:	971316	Due:	Mar 14, 2023
Project Name:	ADDITIONAL - NTH SYD	Phone:	02 8245 0300	Priority:	1 Day
Project ID:	ADDITIONAL - 64150	Fax:		Contact Name:	Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Benzo(a)pyrene	Chromium	Lead	Nickel	USA Leaching Procedure
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X
External Laboratory										
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	BH02_0.1-0.2	Mar 02, 2023		US Leachate	S23-Ma0030229	X		X		X
2	QC20230302	Mar 02, 2023		US Leachate	S23-Ma0030230		X			X
3	BH09_0.2-0.3	Mar 02, 2023		US Leachate	S23-Ma0030231				X	X
Test Counts						1	1	1	1	3

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
- 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.

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

µg/L: micrograms per litre

ppm: parts per million

ppb: parts per billion

%: Percentage

org/100 mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

CFU: Colony forming unit

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
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.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

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%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

- 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.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test				Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
Method Blank											
Heavy Metals											
Chromium				mg/L	< 0.05			0.05	Pass		
Lead				mg/L	< 0.01			0.01	Pass		
Nickel				mg/L	< 0.01			0.01	Pass		
LCS - % Recovery											
Heavy Metals											
Chromium				%	94			80-120	Pass		
Lead				%	91			80-120	Pass		
Nickel				%	112			80-120	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code	
Spike - % Recovery											
Heavy Metals											
Lead				S23-Ma0030256	NCP	%	101		75-125	Pass	
Spike - % Recovery											
Heavy Metals											
Chromium				S23-Ma0030256	NCP	%	106		75-125	Pass	
Spike - % Recovery											
Heavy Metals											
Nickel				S23-Ma0030256	NCP	%	104		75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code	
Duplicate											
Polycyclic Aromatic Hydrocarbons											
Benzo(a)pyrene				S23-Ma0030229	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate											
Heavy Metals											
Chromium				S23-Ma0030229	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass
Lead				S23-Ma0030229	CP	mg/L	4.0	4.1	4.2	30%	Pass
Nickel				S23-Ma0030229	CP	mg/L	0.01	0.02	17	30%	Pass
Duplicate											
Heavy Metals											
Chromium				S23-Ma0022620	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass
Duplicate											
Heavy Metals											
Nickel				S23-Ma0022620	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass

Comments**Sample Integrity**

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

Qualifier Codes/Comments

Code	Description
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

Authorised by:

Fang Yee Tan	Senior Analyst-Metal
Roopesh Rangarajan	Senior Analyst-Organic

Glenn Jackson
General Manager

- 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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JBS & G Australia (NSW) P/L
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Sydney
NSW 2000



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Attention: **Alison Smith**

Report **1181514-W**
 Project name **NORTH SYDNEY GME**
 Project ID **68635**
 Received Date **Jan 28, 2025**

Client Sample ID			BH01	BH02	BH04	QA01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S25-Ja0044807	S25-Ja0044808	S25-Ja0044809	S25-Ja0044810
Date Sampled			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons						
TRH C6-C9	0.02	mg/L	0.06	< 0.02	< 0.02	< 0.02
TRH C10-C14	0.05	mg/L	0.12	< 0.05	< 0.05	< 0.05
TRH C15-C28	0.1	mg/L	1.4	< 0.1	< 0.1	< 0.1
TRH C29-C36	0.1	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
TRH C10-C36 (Total)	0.1	mg/L	1.52	< 0.1	< 0.1	< 0.1
TRH C6-C10	0.02	mg/L	0.06	< 0.02	< 0.02	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	0.06	< 0.02	< 0.02	< 0.02
TRH >C10-C16	0.05	mg/L	0.32	< 0.05	< 0.05	< 0.05
TRH >C10-C16 less Naphthalene (F2) ^{*N01}	0.05	mg/L	0.32	< 0.05	< 0.05	< 0.05
TRH >C16-C34	0.1	mg/L	1.2	< 0.1	< 0.1	< 0.1
TRH >C34-C40	0.1	mg/L	0.2	< 0.1	< 0.1	< 0.1
TRH >C10-C40 (total)*	0.1	mg/L	1.72	< 0.1	< 0.1	< 0.1
BTEX						
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
4-Bromofluorobenzene (surr.)	1	%	106	114	104	107
Volatile Organics						
1.1-Dichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1-Dichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dibromoethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichloroethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.3-Dichloropropane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001

Client Sample ID			BH01	BH02	BH04	QA01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S25-Ja0044807	S25-Ja0044808	S25-Ja0044809	S25-Ja0044810
Date Sampled			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
Test/Reference	LOR	Unit				
Volatile Organics						
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
1.4-Dichlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Butanone (MEK)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Propanone (Acetone)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Chlorotoluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Allyl chloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromochloromethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromodichloromethane	0.001	mg/L	0.008	< 0.001	< 0.001	< 0.001
Bromoform	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Bromomethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Carbon disulfide	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Carbon Tetrachloride	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chlorobenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chloroethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Chloroform	0.005	mg/L	0.044	< 0.005	< 0.005	< 0.005
Chloromethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
cis-1.2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibromochloromethane	0.001	mg/L	0.001	< 0.001	< 0.001	< 0.001
Dibromomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dichlorodifluoromethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Ethylbenzene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Iodomethane	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
m&p-Xylenes	0.002	mg/L	< 0.002	< 0.002	< 0.002	< 0.002
Methylene Chloride	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
o-Xylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Styrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Tetrachloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Trichloroethene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Trichlorofluoromethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl chloride	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Xylenes - Total*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Total MAH*	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	0.044	< 0.005	< 0.005	< 0.005
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	0.044	< 0.005	< 0.005	< 0.005
4-Bromofluorobenzene (surr.)	1	%	106	114	104	107
Toluene-d8 (surr.)	1	%	123	138	126	131
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene ^{NO2}	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01

Client Sample ID			BH01	BH02	BH04	QA01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S25-Ja0044807	S25-Ja0044808	S25-Ja0044809	S25-Ja0044810
Date Sampled			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
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	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Fluorobiphenyl (surr.)	1	%	72	101	72	112
p-Terphenyl-d14 (surr.)	1	%	INT	INT	INT	INT
Semivolatile Organics						
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Total PAH*	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
2-Methyl-4,6-dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
1-Chloronaphthalene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1-Naphthylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1,2-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1,2,3-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1,2,3,4-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1,2,3,5-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1,2,4-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1,2,4,5-Tetrachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1,3-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1,3,5-Trichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
1,4-Dichlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Chloronaphthalene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Chlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Fluorobiphenyl (surr.)	1	%	72	101	72	112
2-Methylnaphthalene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2-Naphthylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Nitroaniline	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2-Nitrophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2-Picoline	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
2,3,4,6-Tetrachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2,4-Dimethylphenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2,4-Dinitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
2,4-Dinitrotoluene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005

Client Sample ID			BH01 Water	BH02 Water	BH04 Water	QA01 Water
Sample Matrix			S25-Ja0044807	S25-Ja0044808	S25-Ja0044809	S25-Ja0044810
Eurofins Sample No.			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
Date Sampled						
Test/Reference	LOR	Unit				
Semivolatile Organics						
2.4.5-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.4.6-Tribromophenol (surr.)	1	%	119	131	87	121
2.4.6-Trichlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
2.6-Dichlorophenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
2.6-Dinitrotoluene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	< 0.006	< 0.006	< 0.006
3-Methylcholanthrene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
3.3'-Dichlorobenzidine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Aminobiphenyl	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
4-Nitrophenol	0.03	mg/L	< 0.03	< 0.03	< 0.03	< 0.03
4.4'-DDD	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4.4'-DDE	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4.4'-DDT	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
7.12-Dimethylbenz(a)anthracene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
a-HCH	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Acenaphthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acenaphthylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Acetophenone	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aldrin	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Aniline	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
b-HCH	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Benz(a)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(a)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(b&j)fluoranthene ^{N07}	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(g,h,i)perylene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzo(k)fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Benzyl chloride	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-ethylhexyl)phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Butyl benzyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Chrysene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
d-HCH	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Di-n-butyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Di-n-octyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Dibenz(a,j)acridine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dibenzofuran	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dieldrin	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Diethyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dimethyl phthalate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Dimethylaminoazobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Diphenylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endosulfan I	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endosulfan II	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endosulfan sulphate	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endrin	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endrin aldehyde	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Endrin ketone	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005

Client Sample ID			BH01	BH02	BH04	QA01
Sample Matrix			Water	Water	Water	Water
Eurofins Sample No.			S25-Ja0044807	S25-Ja0044808	S25-Ja0044809	S25-Ja0044810
Date Sampled			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
Test/Reference	LOR	Unit				
Semivolatile Organics						
Fluoranthene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Fluorene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
g-HCH (Lindane)	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Heptachlor	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Heptachlor epoxide	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorobutadiene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachlorocyclopentadiene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Hexachloroethane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Methoxychlor	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
N-Nitrosodibutylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
N-Nitrosodipropylamine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
N-Nitrosopiperidine	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Nitrobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Nitrobenzene-d5 (surr.)	1	%	140	INT	136	INT
Pentachlorobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Pentachloronitrobenzene	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Pentachlorophenol	0.01	mg/L	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Phenol	0.003	mg/L	< 0.003	< 0.003	< 0.003	< 0.003
Phenol-d6 (surr.)	1	%	39	40	38	41
Pronamide	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Pyrene	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Trifluralin	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Haloethers						
4-Bromophenyl phenyl ether	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
4-Chlorophenyl phenyl ether	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-chloroethoxy)methane	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-chloroisopropyl)ether	0.005	mg/L	< 0.005	< 0.005	< 0.005	< 0.005
Heavy Metals						
Arsenic (filtered)	0.001	mg/L	0.003	< 0.001	0.002	< 0.001
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.005	0.007	0.002	0.008
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001	< 0.001
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Nickel (filtered)	0.001	mg/L	0.043	0.091	0.047	0.10
Zinc (filtered)	0.005	mg/L	0.16	0.27	0.24	0.27

Client Sample ID			RINSATE	TS	TB
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S25-Ja0044811	S25-Ja0044812	S25-Ja0044813
Date Sampled			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons					
TRH C6-C9	0.02	mg/L	< 0.02	-	< 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	-	-
TRH C6-C10	0.02	mg/L	< 0.02	-	< 0.02
TRH C6-C10 less BTEX (F1) ^{N04}	0.02	mg/L	< 0.02	-	< 0.02
TRH >C10-C16	0.05	mg/L	< 0.05	-	-
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	-	-
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	%	106	-	86
Volatile Organics					
1.1-Dichloroethane	0.001	mg/L	< 0.001	-	-
1.1-Dichloroethene	0.001	mg/L	< 0.001	-	-
1.1.1-Trichloroethane	0.001	mg/L	< 0.001	-	-
1.1.1.2-Tetrachloroethane	0.001	mg/L	< 0.001	-	-
1.1.2-Trichloroethane	0.001	mg/L	< 0.001	-	-
1.1.2.2-Tetrachloroethane	0.001	mg/L	< 0.001	-	-
1.2-Dibromoethane	0.001	mg/L	< 0.001	-	-
1.2-Dichlorobenzene	0.001	mg/L	< 0.001	-	-
1.2-Dichloroethane	0.001	mg/L	< 0.001	-	-
1.2-Dichloropropane	0.001	mg/L	< 0.001	-	-
1.2.3-Trichloropropane	0.001	mg/L	< 0.001	-	-
1.2.4-Trimethylbenzene	0.001	mg/L	< 0.001	-	-
1.3-Dichlorobenzene	0.001	mg/L	< 0.001	-	-
1.3-Dichloropropane	0.001	mg/L	< 0.001	-	-
1.3.5-Trimethylbenzene	0.001	mg/L	< 0.001	-	-
1.4-Dichlorobenzene	0.001	mg/L	< 0.001	-	-
2-Butanone (MEK)	0.005	mg/L	< 0.005	-	-
2-Propanone (Acetone)	0.005	mg/L	< 0.005	-	-
4-Chlorotoluene	0.001	mg/L	< 0.001	-	-
4-Methyl-2-pentanone (MIBK)	0.005	mg/L	< 0.005	-	-
Allyl chloride	0.001	mg/L	< 0.001	-	-
Benzene	0.001	mg/L	< 0.001	-	-
Bromobenzene	0.001	mg/L	< 0.001	-	-
Bromochloromethane	0.001	mg/L	< 0.001	-	-
Bromodichloromethane	0.001	mg/L	< 0.001	-	-
Bromoform	0.001	mg/L	< 0.001	-	-
Bromomethane	0.005	mg/L	< 0.005	-	-
Carbon disulfide	0.001	mg/L	< 0.001	-	-

Client Sample ID			RINSATE	TS	TB
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S25-Ja0044811	S25-Ja0044812	S25-Ja0044813
Date Sampled			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
Test/Reference	LOR	Unit			
Volatile Organics					
Carbon Tetrachloride	0.001	mg/L	< 0.001	-	-
Chlorobenzene	0.001	mg/L	< 0.001	-	-
Chloroethane	0.005	mg/L	< 0.005	-	-
Chloroform	0.005	mg/L	< 0.005	-	-
Chloromethane	0.005	mg/L	< 0.005	-	-
cis-1.2-Dichloroethene	0.001	mg/L	< 0.001	-	-
cis-1.3-Dichloropropene	0.001	mg/L	< 0.001	-	-
Dibromochloromethane	0.001	mg/L	< 0.001	-	-
Dibromomethane	0.001	mg/L	< 0.001	-	-
Dichlorodifluoromethane	0.005	mg/L	< 0.005	-	-
Ethylbenzene	0.001	mg/L	< 0.001	-	-
Iodomethane	0.001	mg/L	< 0.001	-	-
Isopropyl benzene (Cumene)	0.001	mg/L	< 0.001	-	-
m&p-Xylenes	0.002	mg/L	< 0.002	-	-
Methylene Chloride	0.005	mg/L	< 0.005	-	-
o-Xylene	0.001	mg/L	< 0.001	-	-
Styrene	0.001	mg/L	< 0.001	-	-
Tetrachloroethene	0.001	mg/L	< 0.001	-	-
Toluene	0.001	mg/L	< 0.001	-	-
trans-1.2-Dichloroethene	0.001	mg/L	< 0.001	-	-
trans-1.3-Dichloropropene	0.001	mg/L	< 0.001	-	-
Trichloroethene	0.001	mg/L	< 0.001	-	-
Trichlorofluoromethane	0.005	mg/L	< 0.005	-	-
Vinyl chloride	0.005	mg/L	< 0.005	-	-
Xylenes - Total*	0.003	mg/L	< 0.003	-	-
Total MAH*	0.003	mg/L	< 0.003	-	-
Vic EPA IWRG 621 CHC (Total)*	0.005	mg/L	< 0.005	-	-
Vic EPA IWRG 621 Other CHC (Total)*	0.005	mg/L	< 0.005	-	-
4-Bromofluorobenzene (surr.)	1	%	106	-	-
Toluene-d8 (surr.)	1	%	128	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene ^{N02}	0.01	mg/L	< 0.01	-	-
Polycyclic Aromatic Hydrocarbons					
Acenaphthene	0.001	mg/L	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	-	-
Anthracene	0.001	mg/L	< 0.001	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-	-
Benzo(a)pyrene	0.001	mg/L	< 0.001	-	-
Benzo(b&j)fluoranthene ^{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	-	-

Client Sample ID			RINSATE	TS	TB
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S25-Ja0044811	S25-Ja0044812	S25-Ja0044813
Date Sampled			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
Test/Reference	LOR	Unit			
Polycyclic Aromatic Hydrocarbons					
Total PAH*	0.001	mg/L	< 0.001	-	-
2-Fluorobiphenyl (surr.)	1	%	96	-	-
p-Terphenyl-d14 (surr.)	1	%	INT	-	-
Semivolatile Organics					
Aldrin and Dieldrin (Total)*	0.0001	mg/L	< 0.005	-	-
DDT + DDE + DDD (Total)*	0.0001	mg/L	< 0.005	-	-
Total PAH*	0.001	mg/L	< 0.001	-	-
2-Methyl-4,6-dinitrophenol	0.03	mg/L	< 0.03	-	-
1-Chloronaphthalene	0.005	mg/L	< 0.005	-	-
1-Naphthylamine	0.005	mg/L	< 0.005	-	-
1,2-Dichlorobenzene	0.005	mg/L	< 0.005	-	-
1,2,3-Trichlorobenzene	0.005	mg/L	< 0.005	-	-
1,2,3,4-Tetrachlorobenzene	0.005	mg/L	< 0.005	-	-
1,2,3,5-Tetrachlorobenzene	0.005	mg/L	< 0.005	-	-
1,2,4-Trichlorobenzene	0.005	mg/L	< 0.005	-	-
1,2,4,5-Tetrachlorobenzene	0.005	mg/L	< 0.005	-	-
1,3-Dichlorobenzene	0.005	mg/L	< 0.005	-	-
1,3,5-Trichlorobenzene	0.005	mg/L	< 0.005	-	-
1,4-Dichlorobenzene	0.005	mg/L	< 0.005	-	-
2-Chloronaphthalene	0.005	mg/L	< 0.005	-	-
2-Chlorophenol	0.003	mg/L	< 0.003	-	-
2-Fluorobiphenyl (surr.)	1	%	96	-	-
2-Methylnaphthalene	0.005	mg/L	< 0.005	-	-
2-Methylphenol (o-Cresol)	0.003	mg/L	< 0.003	-	-
2-Naphthylamine	0.005	mg/L	< 0.005	-	-
2-Nitroaniline	0.005	mg/L	< 0.005	-	-
2-Nitrophenol	0.01	mg/L	< 0.01	-	-
2-Picoline	0.005	mg/L	< 0.005	-	-
2,3,4,6-Tetrachlorophenol	0.01	mg/L	< 0.01	-	-
2,4-Dichlorophenol	0.003	mg/L	< 0.003	-	-
2,4-Dimethylphenol	0.003	mg/L	< 0.003	-	-
2,4-Dinitrophenol	0.03	mg/L	< 0.03	-	-
2,4-Dinitrotoluene	0.005	mg/L	< 0.005	-	-
2,4,5-Trichlorophenol	0.01	mg/L	< 0.01	-	-
2,4,6-Tribromophenol (surr.)	1	%	102	-	-
2,4,6-Trichlorophenol	0.01	mg/L	< 0.01	-	-
2,6-Dichlorophenol	0.003	mg/L	< 0.003	-	-
2,6-Dinitrotoluene	0.005	mg/L	< 0.005	-	-
3&4-Methylphenol (m&p-Cresol)	0.006	mg/L	< 0.006	-	-
3-Methylcholanthrene	0.005	mg/L	< 0.005	-	-
3,3'-Dichlorobenzidine	0.005	mg/L	< 0.005	-	-
4-Aminobiphenyl	0.005	mg/L	< 0.005	-	-
4-Chloro-3-methylphenol	0.01	mg/L	< 0.01	-	-
4-Nitrophenol	0.03	mg/L	< 0.03	-	-
4,4'-DDD	0.005	mg/L	< 0.005	-	-
4,4'-DDE	0.005	mg/L	< 0.005	-	-
4,4'-DDT	0.005	mg/L	< 0.005	-	-
7,12-Dimethylbenz(a)anthracene	0.005	mg/L	< 0.005	-	-
a-HCH	0.005	mg/L	< 0.005	-	-

Client Sample ID			RINSATE	TS	TB
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S25-Ja0044811	S25-Ja0044812	S25-Ja0044813
Date Sampled			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
Test/Reference	LOR	Unit			
Semivolatile Organics					
Acenaphthene	0.001	mg/L	< 0.001	-	-
Acenaphthylene	0.001	mg/L	< 0.001	-	-
Acetophenone	0.005	mg/L	< 0.005	-	-
Aldrin	0.005	mg/L	< 0.005	-	-
Aniline	0.005	mg/L	< 0.005	-	-
Anthracene	0.001	mg/L	< 0.001	-	-
b-HCH	0.005	mg/L	< 0.005	-	-
Benz(a)anthracene	0.001	mg/L	< 0.001	-	-
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	-	-
Benzyl chloride	0.005	mg/L	< 0.005	-	-
Bis(2-ethylhexyl)phthalate	0.005	mg/L	< 0.005	-	-
Butyl benzyl phthalate	0.005	mg/L	< 0.005	-	-
Chrysene	0.001	mg/L	< 0.001	-	-
d-HCH	0.005	mg/L	< 0.005	-	-
Di-n-butyl phthalate	0.005	mg/L	< 0.005	-	-
Di-n-octyl phthalate	0.005	mg/L	< 0.005	-	-
Dibenz(a,h)anthracene	0.001	mg/L	< 0.001	-	-
Dibenz(a,j)acridine	0.005	mg/L	< 0.005	-	-
Dibenzofuran	0.005	mg/L	< 0.005	-	-
Dieldrin	0.005	mg/L	< 0.005	-	-
Diethyl phthalate	0.005	mg/L	< 0.005	-	-
Dimethyl phthalate	0.005	mg/L	< 0.005	-	-
Dimethylaminoazobenzene	0.005	mg/L	< 0.005	-	-
Diphenylamine	0.005	mg/L	< 0.005	-	-
Endosulfan I	0.005	mg/L	< 0.005	-	-
Endosulfan II	0.005	mg/L	< 0.005	-	-
Endosulfan sulphate	0.005	mg/L	< 0.005	-	-
Endrin	0.005	mg/L	< 0.005	-	-
Endrin aldehyde	0.005	mg/L	< 0.005	-	-
Endrin ketone	0.005	mg/L	< 0.005	-	-
Fluoranthene	0.001	mg/L	< 0.001	-	-
Fluorene	0.001	mg/L	< 0.001	-	-
g-HCH (Lindane)	0.005	mg/L	< 0.005	-	-
Heptachlor	0.005	mg/L	< 0.005	-	-
Heptachlor epoxide	0.005	mg/L	< 0.005	-	-
Hexachlorobenzene	0.005	mg/L	< 0.005	-	-
Hexachlorobutadiene	0.005	mg/L	< 0.005	-	-
Hexachlorocyclopentadiene	0.005	mg/L	< 0.005	-	-
Hexachloroethane	0.005	mg/L	< 0.005	-	-
Indeno(1.2.3-cd)pyrene	0.001	mg/L	< 0.001	-	-
Methoxychlor	0.005	mg/L	< 0.005	-	-
N-Nitrosodibutylamine	0.005	mg/L	< 0.005	-	-
N-Nitrosodipropylamine	0.005	mg/L	< 0.005	-	-
N-Nitrosopiperidine	0.005	mg/L	< 0.005	-	-
Naphthalene	0.001	mg/L	< 0.001	-	-
Nitrobenzene	0.005	mg/L	< 0.005	-	-

Client Sample ID			RINSATE	TS	TB
Sample Matrix			Water	Water	Water
Eurofins Sample No.			S25-Ja0044811	S25-Ja0044812	S25-Ja0044813
Date Sampled			Jan 28, 2025	Jan 28, 2025	Jan 28, 2025
Test/Reference	LOR	Unit			
Semivolatile Organics					
Nitrobenzene-d5 (surr.)	1	%	INT	-	-
Pentachlorobenzene	0.005	mg/L	< 0.005	-	-
Pentachloronitrobenzene	0.005	mg/L	< 0.005	-	-
Pentachlorophenol	0.01	mg/L	< 0.01	-	-
Phenanthrene	0.001	mg/L	< 0.001	-	-
Phenol	0.003	mg/L	< 0.003	-	-
Phenol-d6 (surr.)	1	%	46	-	-
Pronamide	0.005	mg/L	< 0.005	-	-
Pyrene	0.001	mg/L	< 0.001	-	-
Trifluralin	0.005	mg/L	< 0.005	-	-
Haloethers					
4-Bromophenyl phenyl ether	0.005	mg/L	< 0.005	-	-
4-Chlorophenyl phenyl ether	0.005	mg/L	< 0.005	-	-
Bis(2-chloroethoxy)methane	0.005	mg/L	< 0.005	-	-
Bis(2-chloroisopropyl)ether	0.005	mg/L	< 0.005	-	-
Heavy Metals					
Arsenic	0.001	mg/L	< 0.001	-	-
Cadmium	0.0002	mg/L	< 0.0002	-	-
Chromium	0.001	mg/L	< 0.001	-	-
Copper	0.001	mg/L	< 0.001	-	-
Lead	0.001	mg/L	< 0.001	-	-
Mercury	0.0001	mg/L	< 0.0001	-	-
Nickel	0.001	mg/L	< 0.001	-	-
Zinc	0.005	mg/L	< 0.005	-	-
TRH C6-C10	1	%	-	73	-
Total Recoverable Hydrocarbons					
Naphthalene	1	%	-	110	-
TRH C6-C9	1	%	-	75	-
BTEX					
Benzene	1	%	-	98	-
Ethylbenzene	1	%	-	97	-
m&p-Xylenes	1	%	-	98	-
o-Xylene	1	%	-	99	-
Toluene	1	%	-	100	-
Xylenes - Total	1	%	-	98	-
4-Bromofluorobenzene (surr.)	1	%	-	104	-
BTEX and Naphthalene					
Naphthalene ^{NO2}	0.01	mg/L	-	-	< 0.01

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Feb 03, 2025	7 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Feb 03, 2025	7 Days
Total Recoverable Hydrocarbons - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Jan 29, 2025	7 Days
BTEX - Method: LTM-ORG-2010 BTEX and Volatile TRH	Sydney	Feb 03, 2025	14 Days
Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40	Sydney	Feb 03, 2025	7 Days
Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water	Sydney	Feb 03, 2025	7 Days
Metals M8 filtered - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Feb 03, 2025	28 Days
Volatile Organics - Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices	Sydney	Feb 03, 2025	7 Days
Semivolatile Organics - Method: LTM-ORG-2190 SVOC in Water & Soil by GC-MS	Sydney	Feb 03, 2025	7 Day
Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Sydney	Feb 03, 2025	28 Days

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370 & 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
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Company Name: JBS & G Australia (NSW) P/L
Address: Level 8, 179 Elizabeth St
 Sydney
 NSW 2000

Project Name: NORTH SYDNEY GME
Project ID: 68635

Order No.:
Report #: 1181514
Phone: 02 8245 0300
Fax:

Received: Jan 28, 2025 6:03 PM
Due: Feb 5, 2025
Priority: 5 Day
Contact Name: Alison Smith

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Eurofins Suite B7	Eurofins Suite B7 (filtered metals)	BTEXN and Volatile TRH	Eurofins Suite SVV: SVOCNOC	BTEXN and Volatile TRH
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X	X
External Laboratory										
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	BH01	Jan 28, 2025		Water	S25-Ja0044807		X		X	
2	BH02	Jan 28, 2025		Water	S25-Ja0044808		X		X	
3	BH04	Jan 28, 2025		Water	S25-Ja0044809		X		X	
4	QA01	Jan 28, 2025		Water	S25-Ja0044810		X		X	
5	RINSATE	Jan 28, 2025		Water	S25-Ja0044811	X			X	
6	TS	Jan 28, 2025		Water	S25-Ja0044812					X
7	TB	Jan 28, 2025		Water	S25-Ja0044813			X		
Test Counts						1	4	1	5	1

Internal Quality Control Review and Glossary

General

- Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follow guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013. They are included in this QC report where applicable. Additional QC data may be available on request.
- Unless otherwise stated, all soil/sediment/solid results are reported on a dry weight basis.
- Unless otherwise stated, all biota/food results are reported on a wet weight basis on the edible portion.
- For CEC results where the sample's origin is unknown or environmentally contaminated, the results should be used advisedly.
- Actual LORs are matrix dependent. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds where annotated.
- SVOC analysis on waters is performed on homogenised, unfiltered samples unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified in this report with **blue** colour indicates data provided by customers that may have an impact on the results.
- This report replaces any interim results previously issued.

Holding Times

Please refer to the '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 before sample receipt deadlines as stated on the SRA.

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

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

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

Units

mg/kg: milligrams per kilogram	mg/L: milligrams per litre	ppm: parts per million
µg/L: micrograms per litre	ppb: parts per billion	%: Percentage
org/100 mL: Organisms per 100 millilitres	NTU: Nephelometric Turbidity Units	MPN/100 mL: Most Probable Number of organisms per 100 millilitres
CFU: Colony Forming Unit	Colour: Pt-Co Units (CU)	

Terms

APHA	American Public Health Association
CEC	Cation Exchange Capacity
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where moisture has been determined on a solid sample, the result is expressed on a dry weight basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - 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.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC represents the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a similar compound to the analyte target is reported as percentage recovery. See below for acceptance criteria.
TBTO	Tributyltin oxide (<i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment; however, free tributyltin was measured, and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 6.0
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should only be used as a guide and may be different when site-specific Sampling Analysis and Quality Plan (SAQP) have been implemented.

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%

NOTE: pH duplicates are reported as a range, not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS. SVOCs recoveries 20 – 150%, VOC recoveries 50 – 150%

PFAS field samples containing surrogate recoveries above the QC limit designated in QSM 6.0, where no positive PFAS results have been reported or reviewed, and no data was affected.

QC Data General Comments

- Where a result is reported as 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.
- 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 are not data from your samples.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery, the term "INT" appears against that analyte.
- For Matrix Spikes and LCS results, a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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							
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	
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							
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							
Volatile Organics							
1.1-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.1-Dichloroethene	mg/L	< 0.001			0.001	Pass	
1.1.1-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.1.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2-Trichloroethane	mg/L	< 0.001			0.001	Pass	
1.1.2.2-Tetrachloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dibromoethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.2-Dichloroethane	mg/L	< 0.001			0.001	Pass	
1.2-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.3-Trichloropropane	mg/L	< 0.001			0.001	Pass	
1.2.4-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
1.3-Dichloropropane	mg/L	< 0.001			0.001	Pass	
1.3.5-Trimethylbenzene	mg/L	< 0.001			0.001	Pass	
1.4-Dichlorobenzene	mg/L	< 0.001			0.001	Pass	
2-Butanone (MEK)	mg/L	< 0.005			0.005	Pass	
2-Propanone (Acetone)	mg/L	< 0.005			0.005	Pass	
4-Chlorotoluene	mg/L	< 0.001			0.001	Pass	
4-Methyl-2-pentanone (MIBK)	mg/L	< 0.005			0.005	Pass	
Allyl chloride	mg/L	< 0.001			0.001	Pass	
Bromobenzene	mg/L	< 0.001			0.001	Pass	
Bromochloromethane	mg/L	< 0.001			0.001	Pass	
Bromodichloromethane	mg/L	< 0.001			0.001	Pass	
Bromoform	mg/L	< 0.001			0.001	Pass	
Bromomethane	mg/L	< 0.005			0.005	Pass	
Carbon disulfide	mg/L	< 0.001			0.001	Pass	
Carbon Tetrachloride	mg/L	< 0.001			0.001	Pass	
Chlorobenzene	mg/L	< 0.001			0.001	Pass	
Chloroethane	mg/L	< 0.005			0.005	Pass	
Chloroform	mg/L	< 0.005			0.005	Pass	
Chloromethane	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
cis-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
cis-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Dibromochloromethane	mg/L	< 0.001			0.001	Pass	
Dibromomethane	mg/L	< 0.001			0.001	Pass	
Dichlorodifluoromethane	mg/L	< 0.005			0.005	Pass	
Iodomethane	mg/L	< 0.001			0.001	Pass	
Isopropyl benzene (Cumene)	mg/L	< 0.001			0.001	Pass	
Methylene Chloride	mg/L	< 0.005			0.005	Pass	
Styrene	mg/L	< 0.001			0.001	Pass	
Tetrachloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.2-Dichloroethene	mg/L	< 0.001			0.001	Pass	
trans-1.3-Dichloropropene	mg/L	< 0.001			0.001	Pass	
Trichloroethene	mg/L	< 0.001			0.001	Pass	
Trichlorofluoromethane	mg/L	< 0.005			0.005	Pass	
Vinyl chloride	mg/L	< 0.005			0.005	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/L	< 0.01			0.01	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							
Semivolatile Organics							
2-Methyl-4.6-dinitrophenol	mg/L	< 0.03			0.03	Pass	
1-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
1-Naphthylamine	mg/L	< 0.005			0.005	Pass	
1.2-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.4-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.3.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.2.4.5-Tetrachlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.3.5-Trichlorobenzene	mg/L	< 0.005			0.005	Pass	
1.4-Dichlorobenzene	mg/L	< 0.005			0.005	Pass	
2-Chloronaphthalene	mg/L	< 0.005			0.005	Pass	
2-Chlorophenol	mg/L	< 0.003			0.003	Pass	
2-Methylnaphthalene	mg/L	< 0.005			0.005	Pass	
2-Methylphenol (o-Cresol)	mg/L	< 0.003			0.003	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-Naphthylamine	mg/L	< 0.005			0.005	Pass	
2-Nitroaniline	mg/L	< 0.005			0.005	Pass	
2-Nitrophenol	mg/L	< 0.01			0.01	Pass	
2-Picoline	mg/L	< 0.005			0.005	Pass	
2.3.4.6-Tetrachlorophenol	mg/L	< 0.01			0.01	Pass	
2.4-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.4-Dimethylphenol	mg/L	< 0.003			0.003	Pass	
2.4-Dinitrophenol	mg/L	< 0.03			0.03	Pass	
2.4-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	
2.4.5-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.4.6-Trichlorophenol	mg/L	< 0.01			0.01	Pass	
2.6-Dichlorophenol	mg/L	< 0.003			0.003	Pass	
2.6-Dinitrotoluene	mg/L	< 0.005			0.005	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/L	< 0.006			0.006	Pass	
3-Methylcholanthrene	mg/L	< 0.005			0.005	Pass	
3.3'-Dichlorobenzidine	mg/L	< 0.005			0.005	Pass	
4-Aminobiphenyl	mg/L	< 0.005			0.005	Pass	
4-Chloro-3-methylphenol	mg/L	< 0.01			0.01	Pass	
4-Nitrophenol	mg/L	< 0.03			0.03	Pass	
4.4'-DDD	mg/L	< 0.005			0.005	Pass	
4.4'-DDE	mg/L	< 0.005			0.005	Pass	
4.4'-DDT	mg/L	< 0.005			0.005	Pass	
7.12-Dimethylbenz(a)anthracene	mg/L	< 0.005			0.005	Pass	
a-HCH	mg/L	< 0.005			0.005	Pass	
Acetophenone	mg/L	< 0.005			0.005	Pass	
Aldrin	mg/L	< 0.005			0.005	Pass	
Aniline	mg/L	< 0.005			0.005	Pass	
b-HCH	mg/L	< 0.005			0.005	Pass	
Benzyl chloride	mg/L	< 0.005			0.005	Pass	
Bis(2-ethylhexyl)phthalate	mg/L	< 0.005			0.005	Pass	
Butyl benzyl phthalate	mg/L	< 0.005			0.005	Pass	
d-HCH	mg/L	< 0.005			0.005	Pass	
Di-n-butyl phthalate	mg/L	< 0.005			0.005	Pass	
Di-n-octyl phthalate	mg/L	< 0.005			0.005	Pass	
Dibenz(a,j)acridine	mg/L	< 0.005			0.005	Pass	
Dibenzofuran	mg/L	< 0.005			0.005	Pass	
Dieldrin	mg/L	< 0.005			0.005	Pass	
Diethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethyl phthalate	mg/L	< 0.005			0.005	Pass	
Dimethylaminoazobenzene	mg/L	< 0.005			0.005	Pass	
Diphenylamine	mg/L	< 0.005			0.005	Pass	
Endosulfan I	mg/L	< 0.005			0.005	Pass	
Endosulfan II	mg/L	< 0.005			0.005	Pass	
Endosulfan sulphate	mg/L	< 0.005			0.005	Pass	
Endrin	mg/L	< 0.005			0.005	Pass	
Endrin aldehyde	mg/L	< 0.005			0.005	Pass	
Endrin ketone	mg/L	< 0.005			0.005	Pass	
g-HCH (Lindane)	mg/L	< 0.005			0.005	Pass	
Heptachlor	mg/L	< 0.005			0.005	Pass	
Heptachlor epoxide	mg/L	< 0.005			0.005	Pass	
Hexachlorobenzene	mg/L	< 0.005			0.005	Pass	
Hexachlorobutadiene	mg/L	< 0.005			0.005	Pass	
Hexachlorocyclopentadiene	mg/L	< 0.005			0.005	Pass	
Hexachloroethane	mg/L	< 0.005			0.005	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Methoxychlor	mg/L	< 0.005			0.005	Pass	
N-Nitrosodibutylamine	mg/L	< 0.005			0.005	Pass	
N-Nitrosodipropylamine	mg/L	< 0.005			0.005	Pass	
N-Nitrosopiperidine	mg/L	< 0.005			0.005	Pass	
Nitrobenzene	mg/L	< 0.005			0.005	Pass	
Pentachlorobenzene	mg/L	< 0.005			0.005	Pass	
Pentachloronitrobenzene	mg/L	< 0.005			0.005	Pass	
Pentachlorophenol	mg/L	< 0.01			0.01	Pass	
Phenol	mg/L	< 0.003			0.003	Pass	
Pronamide	mg/L	< 0.005			0.005	Pass	
Trifluralin	mg/L	< 0.005			0.005	Pass	
Method Blank							
Haloethers							
4-Bromophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
4-Chlorophenyl phenyl ether	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroethoxy)methane	mg/L	< 0.005			0.005	Pass	
Bis(2-chloroisopropyl)ether	mg/L	< 0.005			0.005	Pass	
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	
Method Blank							
Heavy Metals							
Arsenic	mg/L	< 0.001			0.001	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Zinc	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons							
TRH C6-C9	%	112			70-130	Pass	
TRH C10-C14	%	78			70-130	Pass	
TRH C6-C10	%	110			70-130	Pass	
TRH >C10-C16	%	77			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	119			70-130	Pass	
Toluene	%	113			70-130	Pass	
Ethylbenzene	%	104			70-130	Pass	
m&p-Xylenes	%	117			70-130	Pass	
o-Xylene	%	122			70-130	Pass	
Xylenes - Total*	%	119			70-130	Pass	
LCS - % Recovery							
Volatile Organics							
1,1-Dichloroethene	%	107			70-130	Pass	

Test	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
1.1.1-Trichloroethane	%	122		70-130	Pass	
1.2-Dichlorobenzene	%	115		70-130	Pass	
1.2-Dichloroethane	%	123		70-130	Pass	
Trichloroethene	%	122		70-130	Pass	
LCS - % Recovery						
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene	%	107		70-130	Pass	
LCS - % Recovery						
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	%	77		70-130	Pass	
Acenaphthylene	%	73		70-130	Pass	
Anthracene	%	81		70-130	Pass	
Benz(a)anthracene	%	75		70-130	Pass	
Benzo(a)pyrene	%	86		70-130	Pass	
Benzo(b&j)fluoranthene	%	79		70-130	Pass	
Benzo(g,h,i)perylene	%	94		70-130	Pass	
Benzo(k)fluoranthene	%	78		70-130	Pass	
Chrysene	%	72		70-130	Pass	
Dibenz(a,h)anthracene	%	75		70-130	Pass	
Fluoranthene	%	79		70-130	Pass	
Fluorene	%	81		70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	75		70-130	Pass	
Phenanthrene	%	75		70-130	Pass	
Pyrene	%	80		70-130	Pass	
LCS - % Recovery						
Semivolatile Organics						
2-Chlorophenol	%	59		25-140	Pass	
4-Chloro-3-methylphenol	%	60		25-140	Pass	
Endrin aldehyde	%	81		70-130	Pass	
N-Nitrosodipropylamine	%	72		70-130	Pass	
Pentachlorophenol	%	63		25-140	Pass	
LCS - % Recovery						
Heavy Metals						
Arsenic (filtered)	%	96		80-120	Pass	
Cadmium (filtered)	%	95		80-120	Pass	
Chromium (filtered)	%	97		80-120	Pass	
Copper (filtered)	%	97		80-120	Pass	
Lead (filtered)	%	96		80-120	Pass	
Mercury (filtered)	%	103		80-120	Pass	
Nickel (filtered)	%	98		80-120	Pass	
Zinc (filtered)	%	98		80-120	Pass	
LCS - % Recovery						
Heavy Metals						
Arsenic	%	97		80-120	Pass	
Cadmium	%	97		80-120	Pass	
Chromium	%	96		80-120	Pass	
Copper	%	96		80-120	Pass	
Lead	%	96		80-120	Pass	
Mercury	%	99		80-120	Pass	
Nickel	%	94		80-120	Pass	
Zinc	%	92		80-120	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery									
Total Recoverable Hydrocarbons				Result 1					
TRH C10-C14	S25-Ja0042129	NCP	%	72			70-130	Pass	
TRH >C10-C16	S25-Ja0042129	NCP	%	72			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	S25-Ja0049352	NCP	%	111			70-130	Pass	
Toluene	S25-Ja0049352	NCP	%	110			70-130	Pass	
Ethylbenzene	S25-Ja0049352	NCP	%	96			70-130	Pass	
m&p-Xylenes	S25-Ja0049352	NCP	%	109			70-130	Pass	
o-Xylene	S25-Ja0049352	NCP	%	115			70-130	Pass	
Xylenes - Total*	S25-Ja0049352	NCP	%	111			70-130	Pass	
Spike - % Recovery									
Volatile Organics				Result 1					
1.1-Dichloroethene	S25-Ja0049352	NCP	%	108			70-130	Pass	
1.1.1-Trichloroethane	S25-Ja0049352	NCP	%	112			70-130	Pass	
1.2-Dichlorobenzene	S25-Ja0049352	NCP	%	108			70-130	Pass	
Trichloroethene	S25-Ja0049352	NCP	%	110			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	S25-Ja0049352	NCP	%	94			70-130	Pass	
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	S25-Ja0047101	NCP	%	89			70-130	Pass	
Pyrene	S25-Ja0047101	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Semivolatile Organics				Result 1					
1.2.4-Trichlorobenzene	S25-Ja0047101	NCP	%	76			70-130	Pass	
1.4-Dichlorobenzene	S25-Ja0047101	NCP	%	77			70-130	Pass	
2-Chlorophenol	S25-Ja0047101	NCP	%	63			30-130	Pass	
4-Chloro-3-methylphenol	S25-Ja0047101	NCP	%	55			30-130	Pass	
Phenol	S25-Ja0047101	NCP	%	30			30-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S25-Ja0048821	NCP	%	99			75-125	Pass	
Cadmium (filtered)	S25-Ja0048821	NCP	%	95			75-125	Pass	
Chromium (filtered)	S25-Ja0048821	NCP	%	97			75-125	Pass	
Copper (filtered)	S25-Ja0048821	NCP	%	96			75-125	Pass	
Lead (filtered)	S25-Ja0048821	NCP	%	97			75-125	Pass	
Mercury (filtered)	S25-Ja0048821	NCP	%	108			75-125	Pass	
Nickel (filtered)	S25-Ja0048821	NCP	%	96			75-125	Pass	
Zinc (filtered)	S25-Ja0048821	NCP	%	92			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD			
TRH C6-C9	S25-Ja0044807	CP	mg/L	0.06	0.06	3.0	30%	Pass	
TRH C10-C14	S25-Ja0047434	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH C15-C28	S25-Ja0047434	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C29-C36	S25-Ja0047434	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH C6-C10	S25-Ja0044807	CP	mg/L	0.06	0.06	3.0	30%	Pass	
TRH >C10-C16	S25-Ja0047434	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
TRH >C16-C34	S25-Ja0047434	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	
TRH >C34-C40	S25-Ja0047434	NCP	mg/L	< 0.1	< 0.1	<1	30%	Pass	

Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Toluene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Ethylbenzene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
m&p-Xylenes	S25-Ja0044807	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
o-Xylene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Xylenes - Total*	S25-Ja0044807	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
1.1-Dichloroethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.1-Dichloroethene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.1.1-Trichloroethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.1.1.2-Tetrachloroethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.1.2-Trichloroethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.1.2.2-Tetrachloroethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.2-Dibromoethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.2-Dichlorobenzene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.2-Dichloroethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.2-Dichloropropane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.2.3-Trichloropropane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.2.4-Trimethylbenzene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.3-Dichlorobenzene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.3-Dichloropropane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.3.5-Trimethylbenzene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1.4-Dichlorobenzene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
2-Butanone (MEK)	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
2-Propanone (Acetone)	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
4-Chlorotoluene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
4-Methyl-2-pentanone (MIBK)	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Allyl chloride	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromobenzene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromochloromethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromodichloromethane	S25-Ja0044807	CP	mg/L	0.008	0.008	4.0	30%	Pass
Bromoform	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromomethane	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Carbon disulfide	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Carbon Tetrachloride	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chlorobenzene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chloroethane	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Chloroform	S25-Ja0044807	CP	mg/L	0.044	0.045	3.0	30%	Pass
Chloromethane	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
cis-1.2-Dichloroethene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
cis-1.3-Dichloropropene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibromochloromethane	S25-Ja0044807	CP	mg/L	0.001	0.002	6.0	30%	Pass
Dibromomethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dichlorodifluoromethane	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Iodomethane	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Isopropyl benzene (Cumene)	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Methylene Chloride	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Styrene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Tetrachloroethene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1.2-Dichloroethene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1.3-Dichloropropene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Trichloroethene	S25-Ja0044807	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Trichlorofluoromethane	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Vinyl chloride	S25-Ja0044807	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass

Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S25-Ja0044807	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD		
Acenaphthene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Acenaphthylene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Anthracene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benz(a)anthracene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(a)pyrene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(b&j)fluoranthene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(g,h,i)perylene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Benzo(k)fluoranthene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chrysene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibenz(a,h)anthracene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluoranthene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Fluorene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Indeno(1,2,3-cd)pyrene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Naphthalene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Phenanthrene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Pyrene	S25-Ja0047100	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Duplicate								
Semivolatile Organics				Result 1	Result 2	RPD		
2-Methyl-4,6-dinitrophenol	S25-Ja0047100	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass
1-Chloronaphthalene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1-Naphthylamine	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1,2-Dichlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1,2,3-Trichlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1,2,3,4-Tetrachlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1,2,3,5-Tetrachlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1,2,4-Trichlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1,2,4,5-Tetrachlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1,3-Dichlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1,3,5-Trichlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
1,4-Dichlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
2-Chloronaphthalene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
2-Chlorophenol	S25-Ja0047100	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
2-Methylnaphthalene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
2-Methylphenol (o-Cresol)	S25-Ja0047100	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
2-Naphthylamine	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
2-Nitroaniline	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
2-Nitrophenol	S25-Ja0047100	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
2-Picoline	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
2,3,4,6-Tetrachlorophenol	S25-Ja0047100	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
2,4-Dichlorophenol	S25-Ja0047100	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
2,4-Dimethylphenol	S25-Ja0047100	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
2,4-Dinitrophenol	S25-Ja0047100	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass
2,4-Dinitrotoluene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
2,4,5-Trichlorophenol	S25-Ja0047100	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
2,4,6-Trichlorophenol	S25-Ja0047100	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
2,6-Dichlorophenol	S25-Ja0047100	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
2,6-Dinitrotoluene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
3&4-Methylphenol (m&p-Cresol)	S25-Ja0047100	NCP	mg/L	< 0.006	< 0.006	<1	30%	Pass
3-Methylcholanthrene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
3,3'-Dichlorobenzidine	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
4-Aminobiphenyl	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass

Duplicate								
Semivolatile Organics				Result 1	Result 2	RPD		
4-Chloro-3-methylphenol	S25-Ja0047100	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
4-Nitrophenol	S25-Ja0047100	NCP	mg/L	< 0.03	< 0.03	<1	30%	Pass
4,4'-DDD	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
4,4'-DDE	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
4,4'-DDT	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
7,12-Dimethylbenz(a)anthracene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Acetophenone	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Aldrin	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Aniline	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Benzyl chloride	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Bis(2-ethylhexyl)phthalate	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Butyl benzyl phthalate	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Di-n-butyl phthalate	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Di-n-octyl phthalate	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Dibenz(a,j)acridine	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Dibenzofuran	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Dieldrin	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Diethyl phthalate	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Dimethyl phthalate	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Dimethylaminoazobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Diphenylamine	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Endosulfan I	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Endosulfan II	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Endosulfan sulphate	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Endrin	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Endrin aldehyde	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Endrin ketone	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
g-HCH (Lindane)	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Heptachlor	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Heptachlor epoxide	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Hexachlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Hexachlorobutadiene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Hexachlorocyclopentadiene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Hexachloroethane	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Methoxychlor	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
N-Nitrosodibutylamine	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
N-Nitrosodipropylamine	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
N-Nitrosopiperidine	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Nitrobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Pentachlorobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Pentachloronitrobenzene	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Pentachlorophenol	S25-Ja0047100	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Phenol	S25-Ja0047100	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Pronamide	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Trifluralin	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Duplicate								
Haloethers				Result 1	Result 2	RPD		
4-Bromophenyl phenyl ether	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
4-Chlorophenyl phenyl ether	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Bis(2-chloroethoxy)methane	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Bis(2-chloroisopropyl)ether	S25-Ja0047100	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic (filtered)	S25-Ja0043559	NCP	mg/L	0.002	0.002	5.0	30%	Pass
Cadmium (filtered)	S25-Ja0043559	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium (filtered)	S25-Ja0043559	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper (filtered)	S25-Ja0043559	NCP	mg/L	0.007	0.007	2.0	30%	Pass
Lead (filtered)	S25-Ja0043559	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury (filtered)	S25-Ja0043559	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel (filtered)	S25-Ja0043559	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc (filtered)	S25-Ja0043559	NCP	mg/L	0.013	0.012	4.0	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons				Result 1	Result 2	RPD		
TRH C6-C9	S25-Ja0044808	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
TRH C6-C10	S25-Ja0044808	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass
Duplicate								
BTEX				Result 1	Result 2	RPD		
Benzene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Toluene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Ethylbenzene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
m&p-Xylenes	S25-Ja0044808	CP	mg/L	< 0.002	< 0.002	<1	30%	Pass
o-Xylene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Xylenes - Total*	S25-Ja0044808	CP	mg/L	< 0.003	< 0.003	<1	30%	Pass
Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
1,1-Dichloroethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,1-Dichloroethene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,1,1-Trichloroethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,1,1,2-Tetrachloroethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,1,2-Trichloroethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,1,2,2-Tetrachloroethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,2-Dibromoethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,2-Dichlorobenzene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,2-Dichloroethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,2-Dichloropropane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,2,3-Trichloropropane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,2,4-Trimethylbenzene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,3-Dichlorobenzene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,3-Dichloropropane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,3,5-Trimethylbenzene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
1,4-Dichlorobenzene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
2-Butanone (MEK)	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
2-Propanone (Acetone)	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
4-Chlorotoluene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
4-Methyl-2-pentanone (MIBK)	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Allyl chloride	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromobenzene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromochloromethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromodichloromethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromoform	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Bromomethane	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Carbon disulfide	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Carbon Tetrachloride	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chlorobenzene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Chloroethane	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Chloroform	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Chloromethane	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass

Duplicate								
Volatile Organics				Result 1	Result 2	RPD		
cis-1.2-Dichloroethene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
cis-1.3-Dichloropropene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibromochloromethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dibromomethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Dichlorodifluoromethane	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Iodomethane	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Isopropyl benzene (Cumene)	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Methylene Chloride	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Styrene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Tetrachloroethene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1.2-Dichloroethene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
trans-1.3-Dichloropropene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Trichloroethene	S25-Ja0044808	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Trichlorofluoromethane	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Vinyl chloride	S25-Ja0044808	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Duplicate								
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD		
Naphthalene	S25-Ja0044808	CP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Arsenic	S25-Ja0047434	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Cadmium	S25-Ja0047434	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass
Chromium	S25-Ja0047434	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Copper	S25-Ja0047434	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Lead	S25-Ja0047434	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Mercury	S25-Ja0047434	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass
Nickel	S25-Ja0047434	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass
Zinc	S25-Ja0047434	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass

Comments

Sample Integrity

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

Qualifier Codes/Comments

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

Nileshni Goundar	Analytical Services Manager
Mickael Ros	Senior Analyst-Metal
Raymond Siu	Senior Analyst-Volatile
Roopesh Rangarajan	Senior Analyst-Organic



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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CERTIFICATE OF ANALYSIS 371423

Client Details

Client	JBS & G (NSW & WA) Pty Ltd
Attention	Alison Smith
Address	Level 8, 179 Elizabeth St, Sydney, NSW, 2000

Sample Details

Your Reference	68635
Number of Samples	1 Water
Date samples received	28/01/2025
Date completed instructions received	28/01/2025

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.

Report Details

Date results requested by	04/02/2025
Date of Issue	04/02/2025
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Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Dragana Tomas, Senior Chemist
 Giovanni Agosti, Group Technical Manager
 Jack Wallis, Senior Chemist
 Timothy Toll, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

VOCs in water		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
Date Extracted	-	31/01/2025
Date Analysed	-	03/02/2025
Dichlorodifluoromethane	µg/L	<10
Chloromethane	µg/L	<10
Vinyl Chloride	µg/L	<10
Bromomethane	µg/L	<10
Chloroethane	µg/L	<10
Trichlorofluoromethane	µg/L	<10
1,1-Dichloroethene	µg/L	<1
Trans-1,2-dichloroethene	µg/L	<1
1,1-dichloroethane	µg/L	<1
Cis-1,2-dichloroethene	µg/L	<1
Bromochloromethane	µg/L	<1
Chloroform	µg/L	<1
2,2-dichloropropane	µg/L	<1
1,2-dichloroethane	µg/L	<1
1,1,1-trichloroethane	µg/L	<1
1,1-dichloropropene	µg/L	<1
Cyclohexane	µg/L	<1
Carbon tetrachloride	µg/L	<1
Benzene	µg/L	<1
Dibromomethane	µg/L	<1
1,2-dichloropropane	µg/L	<1
Trichloroethene	µg/L	<1
Bromodichloromethane	µg/L	<1
trans-1,3-dichloropropene	µg/L	<1
cis-1,3-dichloropropene	µg/L	<1
1,1,2-trichloroethane	µg/L	<1
Toluene	µg/L	<1
1,3-dichloropropane	µg/L	<1
Dibromochloromethane	µg/L	<1
1,2-dibromoethane	µg/L	<1
Tetrachloroethene	µg/L	<1
1,1,1,2-tetrachloroethane	µg/L	<1
Chlorobenzene	µg/L	<1
Ethylbenzene	µg/L	<1

VOCs in water		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
Bromoform	µg/L	<1
m+p-xylene	µg/L	<2
Styrene	µg/L	<1
1,1,2,2-tetrachloroethane	µg/L	<1
o-xylene	µg/L	<1
1,2,3-trichloropropane	µg/L	<1
Isopropylbenzene	µg/L	<1
Bromobenzene	µg/L	<1
n-propyl benzene	µg/L	<1
2-chlorotoluene	µg/L	<1
4-chlorotoluene	µg/L	<1
1,3,5-trimethyl benzene	µg/L	<1
Tert-butyl benzene	µg/L	<1
1,2,4-trimethyl benzene	µg/L	<1
1,3-dichlorobenzene	µg/L	<1
Sec-butyl benzene	µg/L	<1
1,4-dichlorobenzene	µg/L	<1
4-isopropyl toluene	µg/L	<1
1,2-dichlorobenzene	µg/L	<1
n-butyl benzene	µg/L	<1
1,2-dibromo-3-chloropropane	µg/L	<1
1,2,4-trichlorobenzene	µg/L	<1
Hexachlorobutadiene	µg/L	<1
1,2,3-trichlorobenzene	µg/L	<1
Surrogate Dibromofluoromethane	%	100
Surrogate Toluene-d8	%	101
Surrogate 4-Bromofluorobenzene	%	97

SVOCs in Water		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
Date extracted	-	29/01/2025
Date analysed	-	30/01/2025
Aniline	µg/L	<5
4-Chloroaniline	µg/L	<5
2-Nitroaniline	µg/L	<5
3-Nitroaniline	µg/L	<5
Dibenzofuran	µg/L	<5
2-Naphthylamine	µg/L	<5
1-Naphthylamine	µg/L	<5
4-Nitroaniline	µg/L	<5
Bis(2-chloroethyl) ether	µg/L	<5
Bis(2-Chloroisopropyl) ether	µg/L	<5
Bis(2-Chloroethoxy) methane	µg/L	<5
4-Chlorophenyl phenyl ether	µg/L	<5
4-Bromophenyl phenyl ether	µg/L	<5
Ethyl Methanesulfonate	µg/L	<5
Benzyl Alcohol	µg/L	<5
Isosafrole (cis+trans)	µg/L	<10
Safrole	µg/L	<5
Carbazole	µg/L	<5
Methapyrilene	µg/L	<10
p-Dimethylaminoazobenzene	µg/L	<5
Acetophenone	µg/L	<5
Nitrobenzene	µg/L	<5
Isophorone	µg/L	<5
1,3-Dinitrobenzene	µg/L	<5
2,6-Dinitrotoluene	µg/L	<5
5-Nitro-o-toluidine	µg/L	<5
Azobenzene	µg/L	<5
Phenacetin	µg/L	<5
Pentachloronitrobenzene	µg/L	<5
N-Nitrosodi-n-propylamine (NDPA)	µg/L	<5
N-Nitrosomorpholine (NMOR)	µg/L	<5
N-Nitrosopiperidine (NPIP)	µg/L	<5
N-Nitroso-n-butylamine (NDBA)	µg/L	<5
Diphenylamine	µg/L	<5

SVOCs in Water		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
alpha-BHC	µg/L	<2
beta-BHC	µg/L	<2
gamma-BHC (Lindane)	µg/L	<2
delta-BHC	µg/L	<2
Heptachlor	µg/L	<2
Aldrin	µg/L	<2
Heptachlor Epoxide	µg/L	<2
gamma-Chlordane (trans-Chlordane)	µg/L	<2
alpha-Chlordane (cis-Chlordane)	µg/L	<2
Endosulfan I	µg/L	<2
4,4'-DDE (pp-DDE)	µg/L	<2
Dieldrin	µg/L	<2
Endrin	µg/L	<2
4,4'-DDD (pp-DDD)	µg/L	<2
Endosulfan II	µg/L	<2
Endrin Aldehyde	µg/L	<2
4,4'-DDT (pp-DDT)	µg/L	<2
Endosulfan Sulphate	µg/L	<2
Endrin Ketone	µg/L	<2
Methoxychlor	µg/L	<2
Mirex	ug/L	<2
Dichlorvos	µg/L	<2
Mevinphos	µg/L	<2
Phorate	µg/L	<2
Dimethoate	µg/L	<2
Diazinon	µg/L	<2
Disulfoton	µg/L	<2
Chlorpyrifos-methyl	µg/L	<2
Parathion-methyl	µg/L	<2
Ronnel	µg/L	<2
Fenitrothion	µg/L	<2
Malathion	µg/L	<2
Chlorpyrifos	µg/L	<2
Fenthion	µg/L	<2
Parathion	µg/L	<2
Bromophos-ethyl	µg/L	<2
Methodathion	µg/L	<2

SVOCs in Water		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
Fenamiphos	µg/L	<2
Ethion	µg/L	<2
Phosalone	µg/L	<2
Azinphos-methyl (Guthion)	µg/L	<2
Coumaphos	µg/L	<2
Naphthalene	µg/L	<2
2-Methylnaphthalene	µg/L	<2
2-Chloronaphthalene	µg/L	<2
1-Chloronaphthalene	µg/L	<2
Acenaphthylene	µg/L	<2
Acenaphthene	µg/L	<2
Fluorene	µg/L	<2
Phenanthrene	µg/L	<2
Anthracene	µg/L	<2
Fluoranthene	µg/L	<2
Pyrene	µg/L	<2
2-Acetylaminofluorene	µg/L	<2
Benzo(a)anthracene	µg/L	<2
Chrysene	µg/L	<2
Benzo(b,j,k)fluoranthene	µg/L	<4
7,12-Dimethylbenz(a)anthracene	µg/L	<2
Benzo(a)pyrene	µg/L	<2
3-Methylcholanthrene	µg/L	<2
Indeno(1,2,3-c,d)pyrene	µg/L	<2
Dibenzo(a,h)anthracene	µg/L	<2
Benzo(g,h,i)perylene	µg/L	<2
Phenol	µg/L	<2
2-Chlorophenol	µg/L	<2
2-Methylphenol (o-Cresol)	µg/L	<2
3/4-Methylphenol (m/p-Cresol)	µg/L	<4
2-Nitrophenol	µg/L	<2
2,4-Dimethylphenol	µg/L	<2
2,4-Dichlorophenol	µg/L	<2
2,6-Dichlorophenol	µg/L	<2
4-Chloro-3-methylphenol	µg/L	<5
2,4,6-Trichlorophenol	µg/L	<2
2,4,5-Trichlorophenol	µg/L	<2

SVOCs in Water		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
2,4-Dinitrophenol	µg/L	<20
4-Nitrophenol	µg/L	<20
2,3,4,6-Tetrachlorophenol	µg/L	<2
4,6-Dinitro-2-methylphenol	µg/L	<20
Pentachlorophenol	µg/L	<10
Dinoseb	µg/L	<20
Dimethyl phthalate	µg/L	<10
Diethyl phthalate	µg/L	<10
Di-n-butyl phthalate	µg/L	<50
Butyl benzyl phthalate	µg/L	<10
Bis(2-ethylhexyl)phthalate (DEHP)	µg/L	<50
Di-n-octyl phthalate	µg/L	<50
Pentachloroethane	µg/L	<2
1,3-Dichlorobenzene	µg/L	<2
1,4-Dichlorobenzene	µg/L	<2
1,2-Dichlorobenzene	µg/L	<2
Hexachloroethane	µg/L	<2
1,2,4-Trichlorobenzene	µg/L	<2
Hexachloropropene	µg/L	<2
Hexachlorobutadiene	µg/L	<2
Hexachlorocyclopentadiene	µg/L	<5
1,2,3,5 & 1,2,4,5-Tetrachlorobenzene	µg/L	<4
Pentachlorobenzene	µg/L	<2
Hexachlorobenzene	µg/L	<2
Surrogate 2-Fluorophenol	%	27
Surrogate Phenol-d ₆	%	55
Surrogate Nitrobenzene-d ₅	%	82
Surrogate 4-Chloro-3-NBTF	%	77
Surrogate 2-Fluorobiphenyl	%	80
Surrogate 2,4,6-Tribromophenol	%	44
Surrogate p-Terphenyl-d ₁₄	%	92

vTRH(C6-C10)/BTEXN in Water		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
Date extracted	-	31/01/2025
Date analysed	-	03/02/2025
TRH C ₆ - C ₉	µg/L	<10
TRH C ₆ - C ₁₀	µg/L	<10
TRH C ₆ - C ₁₀ less BTEX (F1)	µg/L	<10
Benzene	µg/L	<1
Toluene	µg/L	<1
Ethylbenzene	µg/L	<1
m+p-xylene	µg/L	<2
o-xylene	µg/L	<1
Naphthalene	µg/L	<1
Surrogate Dibromofluoromethane	%	100
Surrogate Toluene-d8	%	101
Surrogate 4-Bromofluorobenzene	%	97

svTRH (C10-C40) in Water		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
Date extracted	-	29/01/2025
Date analysed	-	30/01/2025
TRH C ₁₀ - C ₁₄	µg/L	<50
TRH C ₁₅ - C ₂₈	µg/L	150
TRH C ₂₉ - C ₃₆	µg/L	<100
Total +ve TRH (C10-C36)	µg/L	150
TRH >C ₁₀ - C ₁₆	µg/L	<50
TRH >C ₁₀ - C ₁₆ less Naphthalene (F2)	µg/L	<50
TRH >C ₁₆ - C ₃₄	µg/L	160
TRH >C ₃₄ - C ₄₀	µg/L	<100
Total +ve TRH (>C10-C40)	µg/L	160
Surrogate o-Terphenyl	%	63

PAHs in Water		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
Date extracted	-	29/01/2025
Date analysed	-	30/01/2025
Naphthalene	µg/L	<0.1
Acenaphthylene	µg/L	<0.1
Acenaphthene	µg/L	<0.1
Fluorene	µg/L	<0.1
Phenanthrene	µg/L	<0.1
Anthracene	µg/L	<0.1
Fluoranthene	µg/L	<0.1
Pyrene	µg/L	<0.1
Benzo(a)anthracene	µg/L	<0.1
Chrysene	µg/L	<0.1
Benzo(b,j+k)fluoranthene	µg/L	<0.2
Benzo(a)pyrene	µg/L	<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	<0.1
Dibenzo(a,h)anthracene	µg/L	<0.1
Benzo(g,h,i)perylene	µg/L	<0.1
Benzo(a)pyrene TEQ	µg/L	<0.5
Total +ve PAH's	µg/L	<0.1
Surrogate <i>p</i> -Terphenyl-d14	%	92

HM in water - dissolved		
Our Reference		371423-1
Your Reference	UNITS	QC01
Date Sampled		28/01/2025
Type of sample		Water
Date prepared	-	29/01/2025
Date analysed	-	29/01/2025
Arsenic-Dissolved	µg/L	<1
Cadmium-Dissolved	µg/L	<0.1
Chromium-Dissolved	µg/L	<1
Copper-Dissolved	µg/L	9
Lead-Dissolved	µg/L	<1
Mercury-Dissolved	µg/L	<0.05
Nickel-Dissolved	µg/L	95
Zinc-Dissolved	µg/L	270

Method ID	Methodology Summary
Metals-021	Determination of Mercury by Cold Vapour AAS.
Metals-022	Determination of various metals by ICP-MS. Please note for Bromine and Iodine, any forms of these elements that are present are included together in the one result reported for each of these two elements. Salt forms (e.g. FeO, PbO, ZnO) are determined stoichiometrically from the base metal concentration.
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.
Org-022/025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS/GC-MSMS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013.
Org-023	Water samples are analysed directly 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-025	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MSMS.

QUALITY CONTROL: VOCs in water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date Extracted	-			31/01/2025	[NT]	[NT]	[NT]	[NT]	31/01/2025	[NT]
Date Analysed	-			03/02/2025	[NT]	[NT]	[NT]	[NT]	03/02/2025	[NT]
Dichlorodifluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Vinyl Chloride	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromomethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichlorofluoromethane	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-Dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trans-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Cis-1,2-dichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chloroform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
2,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
1,1,1-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
1,1-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Cyclohexane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbon tetrachloride	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Dibromomethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Trichloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	120	[NT]
Bromodichloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
trans-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
cis-1,3-dichloropropene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2-trichloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
1,3-dichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibromochloromethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
1,2-dibromoethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tetrachloroethene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
1,1,1,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Bromoform	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	101	[NT]
Styrene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,1,2,2-tetrachloroethane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: VOCs in water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
1,2,3-trichloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isopropylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bromobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-propyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-chlorotoluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3,5-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Tert-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trimethyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Sec-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-isopropyl toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
n-butyl benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2-dibromo-3-chloropropane	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobutadiene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3-trichlorobenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
<i>Surrogate</i> Dibromofluoromethane	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	98	[NT]
<i>Surrogate</i> Toluene-d8	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	100	[NT]
<i>Surrogate</i> 4-Bromofluorobenzene	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: SVOCs in Water				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			29/01/2025	[NT]	[NT]	[NT]	[NT]	29/01/2025	[NT]
Date analysed	-			30/01/2025	[NT]	[NT]	[NT]	[NT]	30/01/2025	[NT]
Aniline	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chloroaniline	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitroaniline	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
3-Nitroaniline	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzofuran	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Naphthylamine	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1-Naphthylamine	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitroaniline	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-chloroethyl) ether	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-Chloroisopropyl) ether	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-Chloroethoxy) methane	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Chlorophenyl phenyl ether	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Bromophenyl phenyl ether	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethyl Methanesulfonate	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzyl Alcohol	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isosafrole (cis+trans)	µg/L	10	Org-025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Safrole	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Carbazole	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methapyrilene	µg/L	10	Org-025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
p-Dimethylaminoazobenzene	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acetophenone	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Nitrobenzene	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Isophorone	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-Dinitrobenzene	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dinitrotoluene	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
5-Nitro-o-toluidine	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azobenzene	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phenacetin	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloronitrobenzene	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-Nitrosodi-n-propylamine (NDPA)	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-Nitrosomorpholine (NMOR)	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-Nitrosopiperidine (NPIP)	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
N-Nitroso-n-butylamine (NDBA)	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diphenylamine	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-BHC	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	106	[NT]
beta-BHC	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	106	[NT]
gamma-BHC (Lindane)	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOCs in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
delta-BHC	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Heptachlor	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	106	[NT]
Aldrin	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Heptachlor Epoxide	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	120	[NT]
gamma-Chlordane (trans-Chlordane)	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
alpha-Chlordane (cis-Chlordane)	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan I	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4,4'-DDE (pp-DDE)	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	108	[NT]
Dieldrin	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	114	[NT]
Endrin	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	98	[NT]
4,4'-DDD (pp-DDD)	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	114	[NT]
Endosulfan II	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endrin Aldehyde	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4,4'-DDT (pp-DDT)	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Endosulfan Sulphate	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	120	[NT]
Endrin Ketone	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methoxychlor	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Mirex	ug/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dichlorvos	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	112	[NT]
Mevinphos	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phorate	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dimethoate	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Diazinon	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Disulfoton	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chlorpyrifos-methyl	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion-methyl	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ronnel	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	110	[NT]
Fenitrothion	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	98	[NT]
Malathion	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	122	[NT]
Chlorpyrifos	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	116	[NT]
Fenthion	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Parathion	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	88	[NT]
Bromophos-ethyl	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Methodathion	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fenamiphos	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Ethion	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	114	[NT]
Phosalone	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Azinphos-methyl (Guthion)	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOCs in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Coumaphos	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Naphthalene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	100	[NT]
2-Methylnaphthalene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Chloronaphthalene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1-Chloronaphthalene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthylene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	108	[NT]
Fluorene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	104	[NT]
Phenanthrene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	116	[NT]
Anthracene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	110	[NT]
Pyrene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	118	[NT]
2-Acetylaminofluorene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)anthracene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	104	[NT]
Benzo(b,j,k)fluoranthene	µg/L	4	Org-025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
7,12-Dimethylbenz(a)anthracene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	96	[NT]
3-Methylcholanthrene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Phenol	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	68	[NT]
2-Chlorophenol	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	86	[NT]
2-Methylphenol (o-Cresol)	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
3/4-Methylphenol (m/p-Cresol)	µg/L	4	Org-025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2-Nitrophenol	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dimethylphenol	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dichlorophenol	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,6-Dichlorophenol	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	94	[NT]
4-Chloro-3-methylphenol	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,6-Trichlorophenol	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4,5-Trichlorophenol	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,4-Dinitrophenol	µg/L	20	Org-025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4-Nitrophenol	µg/L	20	Org-025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
2,3,4,6-Tetrachlorophenol	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
4,6-Dinitro-2-methylphenol	µg/L	20	Org-025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorophenol	µg/L	10	Org-025	<10	[NT]	[NT]	[NT]	[NT]	78	[NT]
Dinoseb	µg/L	20	Org-025	<20	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]

QUALITY CONTROL: SVOCs in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Dimethyl phthalate	µg/L	10	Org-025	<10	[NT]	[NT]	[NT]	[NT]	98	[NT]
Diethyl phthalate	µg/L	10	Org-025	<10	[NT]	[NT]	[NT]	[NT]	110	[NT]
Di-n-butyl phthalate	µg/L	50	Org-025	<50	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Butyl benzyl phthalate	µg/L	10	Org-025	<10	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Bis(2-ethylhexyl)phthalate (DEHP)	µg/L	50	Org-025	<50	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Di-n-octyl phthalate	µg/L	50	Org-025	<50	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachloroethane	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,3-Dichlorobenzene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,4-Dichlorobenzene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	86	[NT]
1,2-Dichlorobenzene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachloroethane	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,4-Trichlorobenzene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachloropropene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	78	[NT]
Hexachlorobutadiene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorocyclopentadiene	µg/L	5	Org-025	<5	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
1,2,3,5 & 1,2,4,5-Tetrachlorobenzene	µg/L	4	Org-025	<4	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Pentachlorobenzene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Hexachlorobenzene	µg/L	2	Org-025	<2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate 2-Fluorophenol	%		Org-025	75	[NT]	[NT]	[NT]	[NT]	78	[NT]
Surrogate Phenol-d ₆	%		Org-025	70	[NT]	[NT]	[NT]	[NT]	67	[NT]
Surrogate Nitrobenzene-d ₅	%		Org-025	93	[NT]	[NT]	[NT]	[NT]	92	[NT]
Surrogate 4-Chloro-3-NBTF	%		Org-025	81	[NT]	[NT]	[NT]	[NT]	89	[NT]
Surrogate 2-Fluorobiphenyl	%		Org-025	87	[NT]	[NT]	[NT]	[NT]	90	[NT]
Surrogate 2,4,6-Tribromophenol	%		Org-025	82	[NT]	[NT]	[NT]	[NT]	84	[NT]
Surrogate p-Terphenyl-d ₁₄	%		Org-025	102	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W2	[NT]
Date extracted	-			31/01/2025	[NT]	[NT]	[NT]	[NT]	31/01/2025	[NT]
Date analysed	-			03/02/2025	[NT]	[NT]	[NT]	[NT]	03/02/2025	[NT]
TRH C ₆ - C ₉	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]
TRH C ₆ - C ₁₀	µg/L	10	Org-023	<10	[NT]	[NT]	[NT]	[NT]	102	[NT]
Benzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Toluene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Ethylbenzene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	102	[NT]
m+p-xylene	µg/L	2	Org-023	<2	[NT]	[NT]	[NT]	[NT]	101	[NT]
o-xylene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]
Naphthalene	µg/L	1	Org-023	<1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate Dibromofluoromethane	%		Org-023	99	[NT]	[NT]	[NT]	[NT]	98	[NT]
Surrogate Toluene-d8	%		Org-023	101	[NT]	[NT]	[NT]	[NT]	100	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	96	[NT]	[NT]	[NT]	[NT]	99	[NT]

QUALITY CONTROL: svTRH (C10-C40) in Water					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			29/01/2025	[NT]	[NT]	[NT]	[NT]	29/01/2025	[NT]
Date analysed	-			29/01/2025	[NT]	[NT]	[NT]	[NT]	29/01/2025	[NT]
TRH C ₁₀ - C ₁₄	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH C ₁₅ - C ₂₈	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	89	[NT]
TRH C ₂₉ - C ₃₆	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	129	[NT]
TRH >C ₁₀ - C ₁₆	µg/L	50	Org-020	<50	[NT]	[NT]	[NT]	[NT]	82	[NT]
TRH >C ₁₆ - C ₃₄	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	89	[NT]
TRH >C ₃₄ - C ₄₀	µg/L	100	Org-020	<100	[NT]	[NT]	[NT]	[NT]	129	[NT]
Surrogate o-Terphenyl	%		Org-020	83	[NT]	[NT]	[NT]	[NT]	73	[NT]

QUALITY CONTROL: PAHs in Water				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date extracted	-			29/01/2025	[NT]	[NT]	[NT]	[NT]	29/01/2025	[NT]
Date analysed	-			30/01/2025	[NT]	[NT]	[NT]	[NT]	30/01/2025	[NT]
Naphthalene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Acenaphthylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Acenaphthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Fluorene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Phenanthrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	116	[NT]
Anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Fluoranthene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	110	[NT]
Pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	118	[NT]
Benzo(a)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Chrysene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Benzo(b,j+k)fluoranthene	µg/L	0.2	Org-022/025	<0.2	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(a)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Indeno(1,2,3-c,d)pyrene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Dibenzo(a,h)anthracene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Benzo(g,h,i)perylene	µg/L	0.1	Org-022/025	<0.1	[NT]	[NT]	[NT]	[NT]	[NT]	[NT]
Surrogate p-Terphenyl-d14	%		Org-022/025	102	[NT]	[NT]	[NT]	[NT]	101	[NT]

QUALITY CONTROL: HM in water - dissolved				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W5	[NT]
Date prepared	-			29/01/2025	[NT]	[NT]	[NT]	[NT]	29/01/2025	[NT]
Date analysed	-			29/01/2025	[NT]	[NT]	[NT]	[NT]	29/01/2025	[NT]
Arsenic-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Cadmium-Dissolved	µg/L	0.1	Metals-022	<0.1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Chromium-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Copper-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	84	[NT]
Lead-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	88	[NT]
Mercury-Dissolved	µg/L	0.05	Metals-021	<0.05	[NT]	[NT]	[NT]	[NT]	106	[NT]
Nickel-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	83	[NT]
Zinc-Dissolved	µg/L	1	Metals-022	<1	[NT]	[NT]	[NT]	[NT]	85	[NT]

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.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

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.

Appendix H Field Records





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