Detailed Site Investigation, 253-267 Pacific Highway, North Sydney

Legacy Property

Report

150,793 | 64150

23 March 2023

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
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
RSW	Restricted Solid Waste

Term	Definition
SP	Strata Plan
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 253-267 Pacific Highway, North Sydney NSW (SP16134, SP22870, Lot 51 DP714323, Lot B DP321904, and Lot 10 DP749576), which occupies an area of approximately 1,470 m^2. 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 planning proposal 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 will be one to two levels below the street.

Previously, a Preliminary Site Investigation (PSI, JBS&G 2018[1]) was conducted at 253-267 Pacific Highway by JBS&G. 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 six 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 and the preparation of the DSI report.

Based on the findings of this assessment and subject to the limitations in **Section 12**, 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 shallow impacted fill materials.

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.

[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 253-267 Pacific Highway, North Sydney NSW (SP16134, SP22870, Lot 51 DP714323, Lot B DP321904, and Lot 10 DP749576), which occupies an area of approximately 1,470 m^2. The site location and layout are presented on **Figure 1** and **Figure 2** in **Appendix A**, respectively.

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Previously, a Preliminary Site Investigation (PSI, JBS&G 2018[2]) was conducted at 253-267 Pacific Highway by JBS&G. 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 in general accordance with guidelines made or approved by the NSW Environment Protection Authority (EPA) including National Environment Protection Council (NEPC 2013[3]) 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);
- Completion of a detailed site inspection and soil and vapour sampling;
- 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; and
- Preparation of a DSI report in general accordance with relevant EPA guidelines.

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[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).

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, Lot B DP321904, and Lot 10 DP749576
Address	253-267 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 *North Sydney Local Environmental Plan (LEP) 2013*
Current Use	Mixed use (commercial and residential)
Previous Use	Mixed use (commercial and residential)
Site Area	Approximately 1,470 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 five properties, 253, 255-259, 261, 265 and 267 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.

267 Pacific Highway was two storey brick building with basement and contained a commercial business.

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 West Street, further on commercial buildings including Union Hotel, North Sydney Police station and multistorey office buildings. To the northwest the Mater Hospital and Cammeray High School were located.

- East – The site was bound by Church Lane, residential buildings, further the Stanton Library, North Sydney Oval, St Leonards Park and Warringah Freeway.
- South – The site is bound by 6-8 McLaren Street, McLaren Street, 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, residential properties and North Sydney Demonstration School (southwest), and further was Brennan Park and the train line between Wollstonecraft and Waverton.

No 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 lamanite.
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.
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 the notable exception of 267 Pacific Highway, which was identified to have formerly been the location of a service station/garage, and 255-259 Pacific Highway, which was occupied by Bayer Pharma Pty Ltd a chemical company. The EPA searches did not indicate that any 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 was obtained.

3. Previous Site Investigation

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 is recommended and should be conducted 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)	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 was potential for fill material to be used at the site for levelling activities associated with construction of site. In addition, surface soils may be impacted by activities associated with former land-uses such as service station/garage and, chemical handling

and car sales/hire. 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.

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 mainly by roofs surfaces and be directed to gutter and to stormwater along surrounding roads, with limited exposed soils COPC migration is unlikely via surface water.

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;
- Any flora species to be established on the vegetated areas of the site; and
- 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.

The site is currently primarily covered by concrete and bitumen, presenting minimal potential ecological receptors.

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 solid (sediments, dust, etc) or liquid (surface water).

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 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;
- Development of appropriate assessment criteria for evaluation of site soil and soil vapour 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 investigation was to a maximum depth of 0.7 m, the depth of the deepest hand auger completed at the site.

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
1. Are there any unacceptable risk to onsite future receptors?	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**.
2. Are there any issues relating to the local area background soil concentrations?	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**.
3. Are there any chemical mixtures?	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**.
4. Are there any aesthetic issues?	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**.
5. Is there any evidence of, or potential for, migration of contaminants from the site?	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**.
6. Is a site management strategy required?	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.

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 to 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

Data Quality Indicators	Frequency	Data Quality Criteria
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)
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 photo-ionisation 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 former service station/garage and, chemical handling and car sales/hire on the site, 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 surrounding 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 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**.

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

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 (2009[4]) 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 Criteria[5]:

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

CRC CARE (2017[6]) 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.

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[4] *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)

[5] 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.

[6] *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)

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.

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

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.

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 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.

9.4 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.

9.5 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.

9.6 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

It is noted that groundwater management may be required during construction if the excavation of the proposed lower level basement, or lift pits, encounter groundwater.

10. Conclusions and Recommendations

10.1 Conclusions

Based on the findings of this assessment and subject to the limitations in **Section 12**, 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.

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

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or

amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

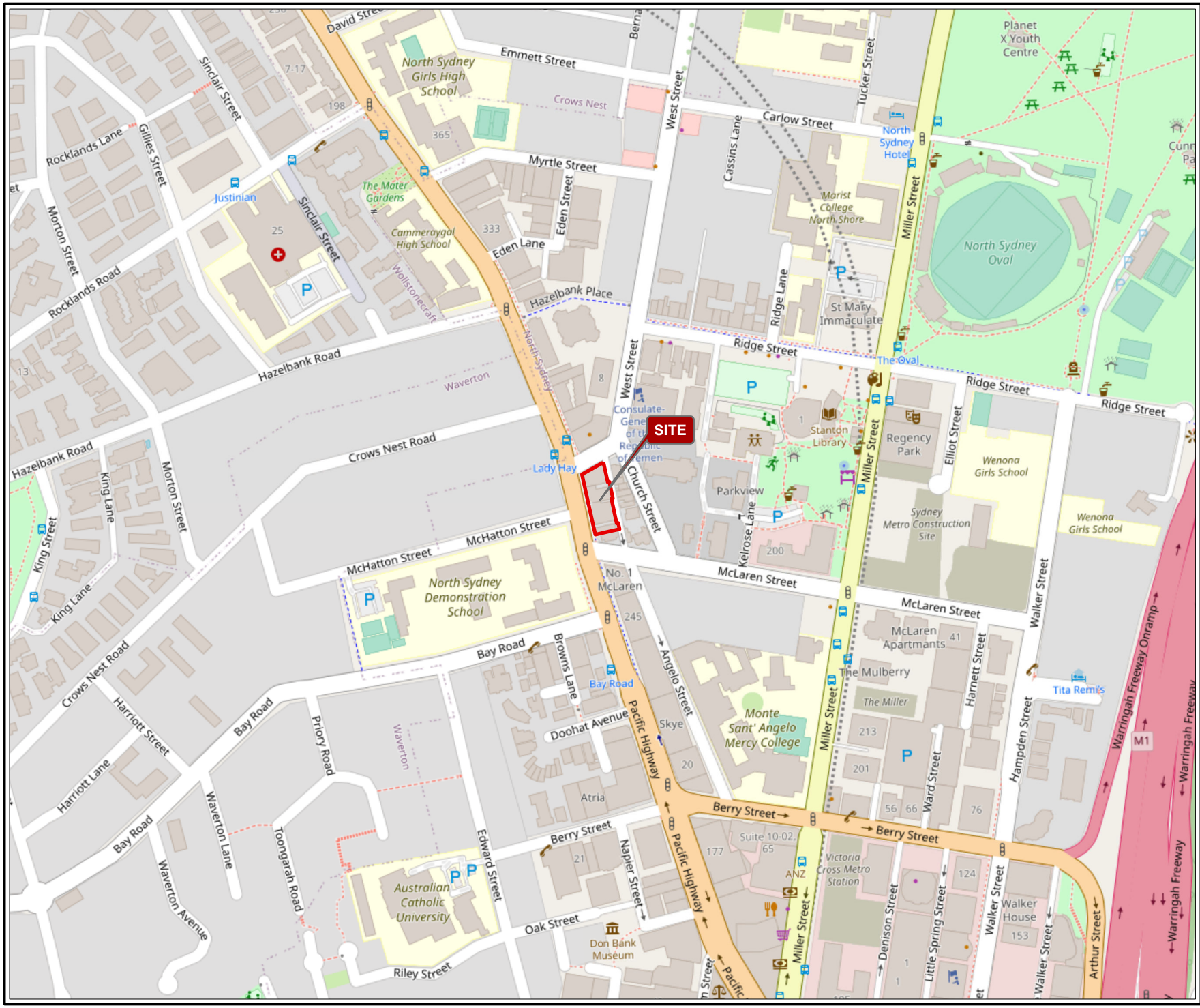
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the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

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

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

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

Appendix A Figures



File Name: 64150_NorthSydneyDSI_R01

Legend

- Approximate Site Boundary
- NSW Cadastre

JBS&G

Job No: 64150

Client: Legacy Properties

Version: R01 Rev A	Date 22/03/2023
Drawn By: EP	Checked By: AS

Scale 1:500

0 5 10

metres

Coord. Sys. GDA 1994 MGA Zone 56

253-267 Pacific Highway,
North Sydney, NSW

SITE LAYOUT

FIGURE 2

File Name: 64150_NorthSydneyDSI_R01
Reference: Nearmap - www.nearmap.com (Capture Date: 09/01/2023)

Legend

Approximate Site Boundary

Sample Locations (JBS&G, 2023)

Borehole Location

Borehole/Soil Vapour Location

JBS&G

Job No: 64150

Client: Legacy Properties

Version: R01 Rev A	Date 22/03/2023
Drawn By: EP	Checked By: AS

Scale 1:500

0 5 10

metres

Coord. Sys. GDA 1994 MGA Zone 56

253-267 Pacific Highway, North Sydney, NSW

SAMPLE LOCATIONS

FIGURE 3

File Name: 64150_NorthSydneyDSI_R01
Reference: Nearmap - www.nearmap.com (Capture Date: 09/01/2023)

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
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**																														
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
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	<0.05
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
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	-	-	-	-	-

Table A: Soil Analytical Data Summary
Project Number: 64150
Project Name: North Sydney DSI

				PAH															Organochlorine Pesticides																	
				Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(b+j)fluoranthene	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05	0.05
NEPM 2013 Table 1B(1-5) Generic EIL - Comm/Ind																370															640						
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																																					
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																																					
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																5																					
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																NL																					
NEPM 2013 Table 1A(1) HILs Res B Soil				4	4	4													400								10	90				600				
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				40	40	40													4000								45	530				3600				
Sample ID	**Lab Report Number**	**Date**																																			
BH01_0-0.1	968779	2/03/2023		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.1-0.2	968779	2/03/2023		9.7	9.7	9.7	4.7	-	5.5	5.8	6.5	1	8.6	<0.5	3.3	<0.5	2.8	<0.5	10	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_0.2-0.3	968779	2/03/2023		1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	0.38	0.16	0.54	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QA20230302	317874	2/03/2023		<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
QC20230302	968779	2/03/2023		1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	1.5	0.59	2.09	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BH06_0.1-0.2	968779	2/03/2023		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0.2-0.3	968779	2/03/2023		1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10_0.1-0.2	968779	2/03/2023		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Analytical Data Summary
Project Number: 64150
Project Name: North Sydney DSI

								Chlorinated Alkanes																			Chlorinated Alkenes							
	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.05	0.05	0.05	0.05	0.05	0.05	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.5	0.5	0.5	0.5	0.5
NEPM 2013 Table 1B(1-5) Generic EIL - Comm/Ind																																	
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																																	
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																																	
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																																	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																																	
NEPM 2013 Table 1A(1) HILs Res B Soil	20			10		500	30																										
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil	100			50		2500	160																										
Sample ID	**Lab Report Number**	**Date**																																
BH01_0-0.1	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_0.2-0.3	968779	2/03/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230302	317874	2/03/2023	<0.1	<0.1	-	<0.1	<0.1	<0.1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1
QC20230302	968779	2/03/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
BH06_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0.2-0.3	968779	2/03/2023	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
BH10_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Analytical Data Summary
Project Number: 64150
Project Name: North Sydney DSI

					Solvents	Polychlorinated Biphenyls								MAH											Miscellaneous Hydrocarbons											
	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene				
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			
EQL	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1			
NEPM 2013 Table 1B(1-5) Generic EIL - Comm/Ind																																			
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																																			
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																																			
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																																			
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																																			
NEPM 2013 Table 1A(1) HILs Res B Soil													1																						
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil													7																						
BH01_0-0.1	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.1-0.2	968779	2/03/2023	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH05_0.2-0.3	968779	2/03/2023	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
QA20230302	317874	2/03/2023	<1	<1	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	-	-	<1
QC20230302	968779	2/03/2023	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH06_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0.2-0.3	968779	2/03/2023	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH10_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table A: Soil Analytical Data Summary
Project Number: 64150
Project Name: North Sydney DSI

	Chlorinated Benzenes						Trihalomethanes				Organic Sulfur Compounds	Asbestos						
	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	Approximate Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment	Asbestos Reported Result
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	% (w/w)	% (w/w)	Comment	Comment	Comment	Comment
EQL	1	0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5							
NEPM 2013 Table 1B(1-5) Generic EIL - Comm/Ind																		
NEPM 2013 Table 1B(6) ESLs for Comm/Ind, Fine Soil																		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil																		
NEPM 2013 Table 7 Comm/Ind D Soil HSL for Asbestos in Soil													0.05	0.001				
NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay																		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay																		
NEPM 2013 Table 1A(1) HILs Res B Soil						15												
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil						80												
Sample ID	**Lab Report Number**	**Date**																
BH01_0-0.1	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	500	0	0	Organic Fibres Detected	No Trace Asbestos Detected	Nil	No Asbestos Detected
BH02_0.1-0.2	968779	2/03/2023	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
BH05_0.2-0.3	968779	2/03/2023	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	854	0	0	Organic Fibres Detected	No Trace Asbestos Detected	Nil	No Asbestos Detected
QA20230302	317874	2/03/2023	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	<1	-	-	<0.01	<0.001	-	-	-	-
QC20230302	968779	2/03/2023	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	<0.5	724	0	0	Organic Fibres Detected	No Trace Asbestos Detected	Nil	No Asbestos Detected
BH06_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0.2-0.3	968779	2/03/2023	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	976	0	0	Organic Fibres Detected	No Trace Asbestos Detected	Nil	No Asbestos Detected
BH10_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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
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**																																	
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
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	<0.05
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
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	-	-	-	-	-

Table B: Waste Classification Summary
Project Number: 64150
Project Name: North Sydney DSI

			PAH																Organochlorine Pesticides																	
			Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)	Benzo(b+j)fluoranthene	Benzo(b+j+k)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-c,d)pyrene	Naphthalene	Phenanthrene	Pyrene	PAHs (Sum of total)	4,4-DDE	a-BHC	b-BHC	d-BHC	g-BHC (Lindane)	Aldrin	Dieldrin	Aldrin + Dieldrin	Chlordane	Chlordane (cis)	Chlordane (trans)	DDT	DDD	DDT+DDE+DDD	Endosulfan I	Endosulfan II	Endosulfan sulphate
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.5	0.5	0.5	0.5	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.05	0.05	0.05	0.05	0.05	0.05
NSW 2014 General Solid Waste CT1 (Without Leachate)																																				
NSW 2014 General Solid Waste SCC1 (With Leachate)																																				
NSW 2014 Restricted Solid Waste CT2 (Without Leachate)																																				
NSW 2014 Restricted Solid Waste SCC2 (With Leachate)																																				
Sample ID	**Lab Report Number**	**Date**																																		
BH01_0-0.1	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.1-0.2	968779	2/03/2023	9.7	9.7	9.7	4.7	-	5.5	5.8	6.5	1	8.6	<0.5	3.3	<0.5	2.8	10	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH05_0.2-0.3	968779	2/03/2023	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	0.38	0.16	0.54	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
QA20230302	317874	2/03/2023	<0.5	<0.5	<0.5	-	<0.2	<0.1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
QC20230302	968779	2/03/2023	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	1.5	0.59	2.09	<0.1	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BH06_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0.2-0.3	968779	2/03/2023	1.2	0.6	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH10_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B: Waste Classification Summary
Project Number: 64150
Project Name: North Sydney DSI

Sample ID	Lab Report Number	Date	Endrin	Endrin aldehyde	Endrin ketone	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL			0.05	0.05	0.05	0.05	0.05	0.05	0.5
NSW 2014 General Solid Waste CT1 (Without Leachate)									
NSW 2014 General Solid Waste SCC1 (With Leachate)									
NSW 2014 Restricted Solid Waste CT2 (Without Leachate)									
NSW 2014 Restricted Solid Waste SCC2 (With Leachate)									
BH01_0-0.1	968779	2/03/2023	-	-	-	-	-	-	-
BH02_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-
BH05_0.2-0.3	968779	2/03/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
QA20230302	317874	2/03/2023	<0.1	<0.1	-	<0.1	<0.1	<0.1	-
QC20230302	968779	2/03/2023	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
BH06_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-
BH09_0.2-0.3	968779	2/03/2023	-	-	-	-	-	-	-
BH10_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-

Sample ID	Chlorinated Alkanes																	
	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Chloroethane	Chloromethane	Dichlorodifluoromethane	Dichloromethane	Trichlorofluoromethane
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (Without Leachate)	200	600	26	24				10					10				172	
NSW 2014 General Solid Waste SCC1 (With Leachate)	360	1080	46.8	43.2				18					18				310	
NSW 2014 Restricted Solid Waste CT2 (Without Leachate)	800	2400	104	96				40					40				688	
NSW 2014 Restricted Solid Waste SCC2 (With Leachate)	1440	4320	187.2	172.8				72					72				1240	
BH01_0-0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.1-0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_0.2-0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230302	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1
QC20230302	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH06_0.1-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0.2-0.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
BH10_0.1-0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Sample ID	Chlorinated Alkenes							
	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	3-chloropropene	4-chlorotoluene	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Tetrachloroethene
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL	0.5	1	1	0.5	0.5	0.5	0.5	0.5
NSW 2014 General Solid Waste CT1 (Without Leachate)	14							14
NSW 2014 General Solid Waste SCC1 (With Leachate)	25							25.2
NSW 2014 Restricted Solid Waste CT2 (Without Leachate)	56							56
NSW 2014 Restricted Solid Waste SCC2 (With Leachate)	100							100.8
BH01_0-0.1	-	-	-	-	-	-	-	-
BH02_0.1-0.2	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
BH05_0.2-0.3	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
QA20230302	<1	<1	<1	-	<1	<1	<1	<1
QC20230302	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
BH06_0.1-0.2	-	-	-	-	-	-	-	-
BH09_0.2-0.3	<0.5	-	-	<0.5	<0.5	<0.5	<0.5	<0.5
BH10_0.1-0.2	-	-	-	-	-	-	-	-

Table B: Waste Classification Summary
Project Number: 64150
Project Name: North Sydney DSI

					Solvents	Polychlorinated Biphenyls								MAH											Miscellaneous Hydrocarbons												
	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl Chloride	Acetone	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	PCBs (Sum of total)	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	n-butylbenzene	n-propylbenzene	p-isopropyltoluene	sec-butylbenzene	Styrene	tert-butylbenzene	Total MAH	Bromobenzene	Isopropylbenzene	1,2-dibromoethane	Bromomethane	Cyclohexane	Dibromomethane	Iodomethane	4-Methyl-2-pentanone	Methyl Ethyl Ketone	1,2,3-trichlorobenzene					
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
EQL	0.5	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	1	1	1	1	0.5	1	0.5	0.5	0.5	0.5	0.5	1	0.5	0.5	0.5	0.5	1					
NSW 2014 General Solid Waste CT1 (Without Leachate)			10	4									<50							60											4000					
NSW 2014 General Solid Waste SCC1 (With Leachate)			18	7.2									<50							108											7200					
NSW 2014 Restricted Solid Waste CT2 (Without Leachate)			40	16									<50							240											16000					
NSW 2014 Restricted Solid Waste SCC2 (With Leachate)			72	28.8									<50							432											28800					

Sample ID	Lab Report Number	Date																																			
BH01_0-0.1	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH02_0.1-0.2	968779	2/03/2023	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH05_0.2-0.3	968779	2/03/2023	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
QA20230302	317874	2/03/2023	<1	<1	<1	<1	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	-	<1	<1	<1	<1	<1	<1	-	-	-	<1			
QC20230302	968779	2/03/2023	<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH06_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0.2-0.3	968779	2/03/2023	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-	-	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
BH10_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table B: Waste Classification Summary
Project Number: 64150
Project Name: North Sydney DSI

	Chlorinated Benzenes						Trihalomethanes				Organic Sulfur Compounds	Asbestos						
	1,2,4-trichlorobenzene	1,2-Dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene	Chlorobenzene	Hexachlorobenzene	Dibromochloromethane	Chloroform	Tribromomethane	Bromodichloromethane	Carbon disulfide	Approximate Sample Mass	Asbestos from ACM in Soil	Asbestos from FA & AF in Soil	Organic Fibres - Comment	Respirable Fibres - Comment	Synthetic Fibres - Comment	Asbestos Reported Result
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	g	% (w/w)	% (w/w)	Comment	Comment	Comment	Comment
EQL	1	0.5	0.5	0.5	0.5	0.05	0.5	0.5	0.5	0.5	0.5							
NSW 2014 General Solid Waste CT1 (Without Leachate)		86		150	2000			120										
NSW 2014 General Solid Waste SCC1 (With Leachate)		155		270	3600			216										
NSW 2014 Restricted Solid Waste CT2 (Without Leachate)		344		600	8000			480										
NSW 2014 Restricted Solid Waste SCC2 (With Leachate)		620		1080	14400			864										
Sample ID	**Lab Report Number**	**Date**																
BH01_0-0.1	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	500	0	0	Organic Fibres Detected	No Trace Asbestos Detected	Nil	No Asbestos Detected
BH02_0.1-0.2	968779	2/03/2023	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
BH05_0.2-0.3	968779	2/03/2023	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	854	0	0	Organic Fibres Detected	No Trace Asbestos Detected	Nil	No Asbestos Detected
QA20230302	317874	2/03/2023	<1	<1	<1	<1	<1	<0.1	<1	<1	<1	-	-	<0.01	<0.001	-	-	-	-
QC20230302	968779	2/03/2023	-	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	<0.5	724	0	0	Organic Fibres Detected	No Trace Asbestos Detected	Nil	No Asbestos Detected
BH06_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BH09_0.2-0.3	968779	2/03/2023	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	976	0	0	Organic Fibres Detected	No Trace Asbestos Detected	Nil	No Asbestos Detected
BH10_0.1-0.2	968779	2/03/2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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	C10-C16	F1 (C6-C10 minus BTEX)	F2 (C10-C16 less Naphthalene)	Benzene	Toluene	Ethylbenzene	Xylene Total	Naphthalene	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,1-dichloroethane
			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													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**														
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

			Chlorinated Alkanes									Chlorinate				
			1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane	1,2-dichloropropane	1,3-dichloropropane	2,2-dichloropropane	Bromochloromethane	Carbon tetrachloride	Trichlorofluoromethane	1,1-dichloroethene	1,1-dichloropropene	2-chlorotoluene	4-chlorotoluene	cis-1,2-dichloroethene
			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																0.3
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	<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	<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

			ed 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
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

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	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
	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														
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	<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	<0.0714285714	<0.0714285714	<1.428571429	<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

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

JBS&G

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

APPENDIX C

PHOTO 5: 265 PACIFIC HIGHWAY, FACING WEST

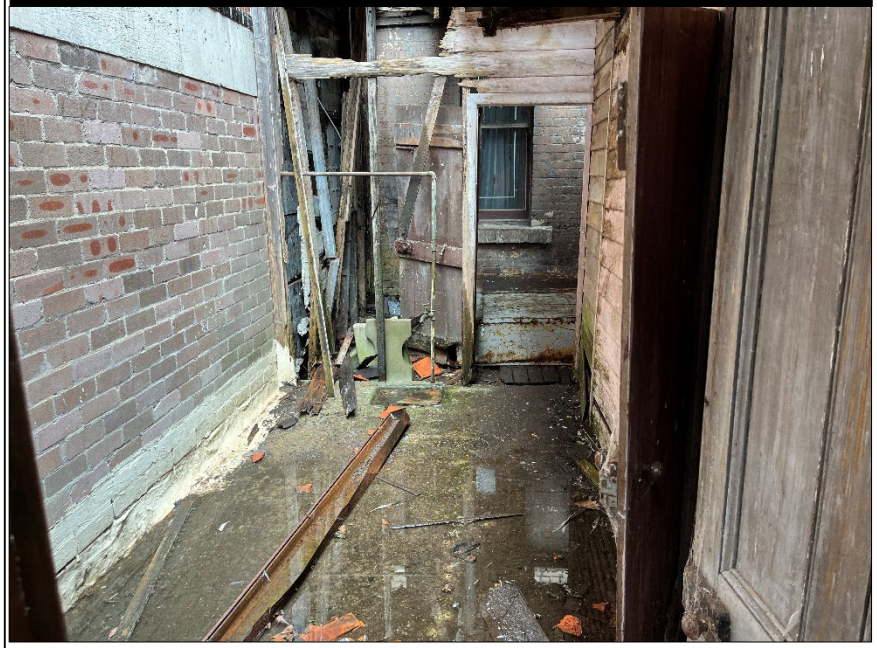


PHOTO 6: 265 PACIFIC HIGHWAY REAR ENTRY, FACING NORTHWEST

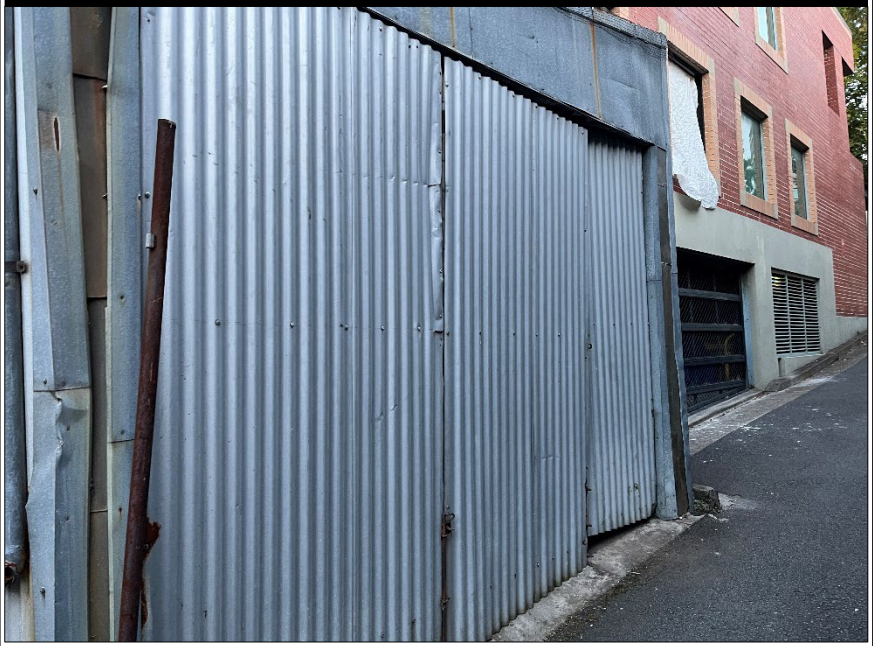


PHOTO 7: 267 PACIFIC HIGHWAY SHOP FRONT, FACING SOUTHWEST

PHOTO 8: 267 PACIFIC HIGHWAY GARAGE, FACING WEST

JBS&G

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

APPENDIX C

PHOTO 9: FILL AT BH05

PHOTO 10: FILL AT BH06

PHOTO 11: FILL AT BH02

PHOTO 12: NATURAL CLAY AT BH05

JBS&G

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, North Sydney, NSW

APPENDIX C

Appendix D Bore Logs

SOIL BOREHOLE BH01

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

Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05 0.1		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
		0.15 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			Refusal Depth at: 0.10 m.				

Comments:

SOIL BOREHOLE BH02

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

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
		0.15							
		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:

SOIL BOREHOLE BH05

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

Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05 0.1 0.15 0.2		Concrete	Fill - CONCRETE				No odours, staining or asbestos
		0.25 0.3		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
		0.35 0.4 0.45 0.5 0.55 0.6		CH-GC	Natural - Clay, dark brown, homogeneous, damp, high plasticity, firm	DP	BH05_0.50-0.60	3.6	No odours, staining or asbestos
		0.65 0.7 0.75 0.8 0.85 0.9 0.95			Termination Depth at: 0.60 m.				

Comments:

SOIL BOREHOLE BH06

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

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
		0.15							
		0.2		Fill	Fill - Clay, brown, heterogeneous, damp, high plasticity, firm	DP	BH06_0.20-0.30	2.6	No odours, staining or asbestos
		0.25							
		0.3		CH	Natural - Clay, brown, homogeneous, damp, high plasticity, stiff	DP			No odours, staining or asbestos
		0.35							
		0.4							
		0.45							
		0.5					BH06_0.50-0.60	2.9	
		0.55							
		0.6			Termination Depth at: 0.60 m.				
		0.65							
		0.7							
		0.75							
		0.8							
		0.85							
		0.9							
		0.95							

Comments:

SOIL BOREHOLE BH09

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

Method	Water (m bgl)	Depth (m bgl)	Graphic Log	Lithological Class	Lithological Description	Moisture	Samples	PID	Additional Observations
HA		0.05 0.1 0.15 0.2		Concrete	Fill - CONCRETE				No odours, staining or asbestos
		0.25 0.3		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
		0.35 0.4		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
		0.45 0.5 0.55 0.6 0.65 0.7		CH	Natural - Clay, brown, homogeneous, damp, high plasticity, firm	DP	BH09_0.60-0.70	1.7	No odours, staining or asbestos
		0.75 0.8 0.85 0.9 0.95			Termination Depth at: 0.70 m.				

Comments:

SOIL BOREHOLE BH10

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

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:

Appendix E Calibration and Decontamination Records

Field Equipment Calibration and Decontamination

PROJECT NAME: 6450	PROJECT NO: North Sydney 125T
FIELDWORK DATES: 2/3/23	SAMPLERS: MS, AC
TYPE OF INVESTIGATION: Soil vapour handaug	PROJECT MANAGER: AS

CALIBRATION SUMMARY

EQUIPMENT: PID
CALIBRATION STANDARD: Isobutylene

DATE	TIME	READING (ppm)	COMMENTS
2/3	7:00	0	zero
2/3	7:01	100	101
2/3	7:03	102.1	bump

DECONTAMINATION SUMMARY

EQUIPMENT: auger				
1	Was the equipment decontaminated appropriately prior to sampling at each location?	(Y)	N	NA
2	Was excess soil removed by scraping, brushing or wiping with disposable towels?	(Y)	N	NA
3	Was the equipment contaminated with grease, tar or similar material?	Y	(N)	NA
	If so, was the equipment steam cleaned or rinsed with pesticide-grade acetone:hexane?	Y	N	NA
4	Was phosphate-free detergent used to wash the equipment?	(Y)	N	NA
5	Was the equipment rinsed with clean water?	(Y)	N	NA
6	Was the equipment then rinsed with deionised water?	(Y)	N	NA
7	Were all sample containers cleaned and acid or solvent washed prior to sample collection?	(Y)	N	NA

WERE ANY ADDITIONAL DECONTAMINATION MEASURES REQUIRED? PROVIDE DETAILS

new auger offsite down at each borehole

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)	1 / 8 samples	0-119% RPD	Partial
Triplicates (Inter laboratory)	1 / 8 samples	0-117% RPD	Partial
Laboratory Duplicates[2]	1 / 20 samples/media	4-22% 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

Data Quality Indicators	Frequency	Result	DQO met?
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
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.

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

JBS&G

PROJECT NO.: 64150	LABORATORY BATCH NO.:
PROJECT NAME: NTH SYD	SAMPLERS: A.CHEOK
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) ALISONSMITH.....@jbsg.com.au; (3) ACHEOK.....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	HM	TRH/BTEX	PAH	VOC	OCP	PCB	ASBESTOS.	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
BH01_0-0.1	SOIL	02/03		J+B		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		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		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		X	

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: DATE: 02/03/22	CONSIGNMENT NOTE NO.	NAME: DATE: 2/3	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	OF:	COOLER TEMP 28.1 deg C
NAME: DATE:	CONSIGNMENT NOTE NO.	NAME: DATE:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF:	TRANSPORT CO	OF:	COOLER TEMP ..... deg C

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

968779

Eurofins (2/2)

Chain of Custody

JBS&G

PROJECT NO.: 64150	LABORATORY BATCH NO.:
PROJECT NAME: NTH SVO	SAMPLERS: A CHEOK
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) ALISONSMITH@jbsg.com.au; (3) ACHEOK@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	TRH	VOC	ISOPROPYL	HM	TRH/BTEX	PAH	VOC	OCP	PCB	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
RINS	WATER	02/03		HM, VIALS, AMBER					X	X	X	X	X	X			
TS/TB	↓	↓		VIAL						X							
SVO1	CARBON			CARBON TUBE		X	X	X									
SVO2	↓			↓		↓	↓	↓									
DUP																	
FB																	

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: [signature] DATE: 02/03/23.	CONSIGNMENT NOTE NO.	NAME:	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE:	
		OF:	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

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

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NATA# 2377 Site# 2370

Eurofins Environment Testing NZ Ltd

NZBN: 9429046024954

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

Christchurch
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.

Global Leader - Results you can trust

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

Eurofins Environment Testing Australia Pty Ltd
ABN: 50 005 085 521

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

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IANZ# 1327	IANZ# 1290

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	

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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
13	SV01 FRONT	Mar 02, 2023		Air	S23-Ma0008137			X				X			X			
14	SV01 BACK	Mar 02, 2023		Air	S23-Ma0008138			X				X			X			
15	SV02 FRONT	Mar 02, 2023		Air	S23-Ma0008139			X				X			X			
16	SV02 BACK	Mar 02, 2023		Air	S23-Ma0008140			X				X			X			
17	DUP FRONT	Mar 02, 2023		Air	S23-Ma0008141			X				X			X			
18	DUP BACK	Mar 02, 2023		Air	S23-Ma0008142			X				X			X			
19	FB FRONT	Mar 02, 2023		Air	S23-Ma0008143			X				X			X			
20	FB BACK	Mar 02, 2023		Air	S23-Ma0008144			X				X			X			
21	BH05_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008145		X											
22	BH06_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008146		X											
23	BH06_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008147		X											
24	BH09_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008148		X											
25	BH09_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008149		X											
26	BH11_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008150		X											
27	BH11_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008151		X											

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Address: Level 1, 50 Margaret St
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NSW 2000

Project Name: NTH SYD
Project ID: 64150

Order No.:
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Phone: 02 8245 0300
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Received: Mar 2, 2023 3:15 PM
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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	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2260 Determination of Alcohols in Water and Soil by Headspace GC-MS			
VOCs in Ambient Air by GC/MS	Melbourne	Mar 03, 2023	14 Days
- Method: LTM-ORG-2030 VOCs in Ambient Air by GC/MS			
Total Recoverable Hydrocarbons	Melbourne	Mar 03, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			

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

Project Name: 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	

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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
13	SV01 FRONT	Mar 02, 2023		Air	S23-Ma0008137			X				X			X			
14	SV01 BACK	Mar 02, 2023		Air	S23-Ma0008138			X				X			X			
15	SV02 FRONT	Mar 02, 2023		Air	S23-Ma0008139			X				X			X			
16	SV02 BACK	Mar 02, 2023		Air	S23-Ma0008140			X				X			X			
17	DUP FRONT	Mar 02, 2023		Air	S23-Ma0008141			X				X			X			
18	DUP BACK	Mar 02, 2023		Air	S23-Ma0008142			X				X			X			
19	FB FRONT	Mar 02, 2023		Air	S23-Ma0008143			X				X			X			
20	FB BACK	Mar 02, 2023		Air	S23-Ma0008144			X				X			X			
21	BH05_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008145		X											
22	BH06_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008146		X											
23	BH06_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008147		X											
24	BH09_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008148		X											
25	BH09_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008149		X											
26	BH11_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008150		X											
27	BH11_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008151		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

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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 (*bis*-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

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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-Dichloropropane	Total ug	< 0.5			0.5	Pass	
1.2.3-Trichloropropane	Total ug	< 0.5			0.5	Pass	
1.2.4-Trimethylbenzene	Total ug	< 0.5			0.5	Pass	
1.3-Dichloropropane	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-Dichloropropane	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.

Certificate of Analysis

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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.

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

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

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Sydney
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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 7, 2023
Priority: 3 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	

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Project Name: NTH SYD
Project ID: 64150

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Phone: 02 8245 0300
Fax:

Received: Mar 2, 2023 3:15 PM
Due: Mar 7, 2023
Priority: 3 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
13	SV01 FRONT	Mar 02, 2023		Air	S23-Ma0008137			X				X			X			
14	SV01 BACK	Mar 02, 2023		Air	S23-Ma0008138			X				X			X			
15	SV02 FRONT	Mar 02, 2023		Air	S23-Ma0008139			X				X			X			
16	SV02 BACK	Mar 02, 2023		Air	S23-Ma0008140			X				X			X			
17	DUP FRONT	Mar 02, 2023		Air	S23-Ma0008141			X				X			X			
18	DUP BACK	Mar 02, 2023		Air	S23-Ma0008142			X				X			X			
19	FB FRONT	Mar 02, 2023		Air	S23-Ma0008143			X				X			X			
20	FB BACK	Mar 02, 2023		Air	S23-Ma0008144			X				X			X			
21	BH05_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008145		X											
22	BH06_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008146		X											
23	BH06_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008147		X											
24	BH09_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008148		X											
25	BH09_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008149		X											
26	BH11_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008150		X											
27	BH11_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008151		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

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/fld	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: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

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

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

Terms

%asbestos	Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**P_A**).
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, *Asbestos: The Analysts Guide*, 2nd Edition (2021).
HSG264	UK HSE HSG264, *Asbestos: The Survey Guide* (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, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 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, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis*
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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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
Dibutylchlorendate (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
Dibutylchlorendate (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	Sydney	Mar 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Mar 06, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 06, 2023	14 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Metals M8	Sydney	Mar 06, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Volatile Organics	Sydney	Mar 06, 2023	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Polycyclic Aromatic Hydrocarbons	Sydney	Mar 06, 2023	14 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
% Moisture	Sydney	Mar 03, 2023	14 Days
- Method: LTM-GEN-7080 Moisture			
Organochlorine Pesticides	Sydney	Mar 06, 2023	14 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Mar 06, 2023	28 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			

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

Project Name: NTH SYD
Project ID: 64150

Order No.:
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Received: Mar 2, 2023 3:15 PM
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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
13	SV01 FRONT	Mar 02, 2023		Air	S23-Ma0008137			X				X			X			
14	SV01 BACK	Mar 02, 2023		Air	S23-Ma0008138			X				X			X			
15	SV02 FRONT	Mar 02, 2023		Air	S23-Ma0008139			X				X			X			
16	SV02 BACK	Mar 02, 2023		Air	S23-Ma0008140			X				X			X			
17	DUP FRONT	Mar 02, 2023		Air	S23-Ma0008141			X				X			X			
18	DUP BACK	Mar 02, 2023		Air	S23-Ma0008142			X				X			X			
19	FB FRONT	Mar 02, 2023		Air	S23-Ma0008143			X				X			X			
20	FB BACK	Mar 02, 2023		Air	S23-Ma0008144			X				X			X			
21	BH05_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008145		X											
22	BH06_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008146		X											
23	BH06_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008147		X											
24	BH09_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008148		X											
25	BH09_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008149		X											
26	BH11_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008150		X											
27	BH11_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008151		X											

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Project Name: NTH SYD
Project ID: 64150

Order No.:
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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)	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

eurofins | Environment Testing

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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 (*bis*-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

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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.

JBS & G Australia (NSW) P/L
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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-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			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			
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[N02]	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	-	-
Dibutylchlorendate (surr.)	1	%	[Q09]INT	-	-
Tetrachloro-m-xylene (surr.)	1	%	141	-	-

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			
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	-	-
Dibutylchlorendate (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	1	%	-	81	-
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	Sydney	Mar 03, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 03, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Total Recoverable Hydrocarbons	Sydney	Mar 03, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
BTEX	Sydney	Mar 03, 2023	14 Days
- Method: LTM-ORG-2010 BTEX and Volatile TRH			
Eurofins Suite B1			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Sydney	Mar 03, 2023	7 Days
- Method: LTM-ORG-2010 TRH C6-C40			
Volatile Organics	Sydney	Mar 03, 2023	7 Days
- Method: LTM-ORG-2150 VOCs in Soils Liquid and other Aqueous Matrices			
Polycyclic Aromatic Hydrocarbons	Sydney	Mar 03, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Metals M8	Sydney	Mar 03, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Organochlorine Pesticides	Sydney	Mar 03, 2023	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			
Polychlorinated Biphenyls	Sydney	Mar 03, 2023	7 Days
- Method: LTM-ORG-2220 OCP & PCB in Soil and Water			

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

Project Name: 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	

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Project ID: 64150

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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
13	SV01 FRONT	Mar 02, 2023		Air	S23-Ma0008137			X				X			X			
14	SV01 BACK	Mar 02, 2023		Air	S23-Ma0008138			X				X			X			
15	SV02 FRONT	Mar 02, 2023		Air	S23-Ma0008139			X				X			X			
16	SV02 BACK	Mar 02, 2023		Air	S23-Ma0008140			X				X			X			
17	DUP FRONT	Mar 02, 2023		Air	S23-Ma0008141			X				X			X			
18	DUP BACK	Mar 02, 2023		Air	S23-Ma0008142			X				X			X			
19	FB FRONT	Mar 02, 2023		Air	S23-Ma0008143			X				X			X			
20	FB BACK	Mar 02, 2023		Air	S23-Ma0008144			X				X			X			
21	BH05_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008145		X											
22	BH06_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008146		X											
23	BH06_0.5-0.6	Mar 02, 2023		Soil	S23-Ma0008147		X											
24	BH09_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008148		X											
25	BH09_0.6-0.7	Mar 02, 2023		Soil	S23-Ma0008149		X											
26	BH11_0.2-0.3	Mar 02, 2023		Soil	S23-Ma0008150		X											
27	BH11_0.3-0.4	Mar 02, 2023		Soil	S23-Ma0008151		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

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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 (*bis*-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

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. 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.

Envirolab (1/1)

Chain of Custody

JBS&G

PROJECT NO.: 64150	LABORATORY BATCH NO.:
PROJECT NAME: NTH SYD	SAMPLERS: A. CHEOK
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) ACHEOK @jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

	SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	HM	TRH/BTEX	PAH	VOC	OCP	PCB	ASBESTOS	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
1	QA 20230302	SOIL	02/03		J+B		X	X	X	X	X	X	X		X	

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

Job No: 317871

Date Received: 03/03/23
Time Received: 1630
Received By:
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: DATE: 02/03/23 OF: JBS&G	CONSIGNMENT NOTE NO. TRANSPORT CO.	NAME: DATE: ELS SYD 03/03/23 1630 OF:	COOLER SEAL – Yes....... No .... Intact.......... Broken .... COOLER TEMP 10 deg C
NAME: DATE: OF:	CONSIGNMENT NOTE NO. TRANSPORT CO	NAME: DATE: OF:	COOLER SEAL – Yes....... No .... Intact.......... Broken .... COOLER TEMP .... deg C

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

Controlled Copy (June 2015)

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

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	Jacinta Hurst
Phone: 02 9910 6200	**Phone: 02 9910 6200**
Fax: 02 9910 6201	**Fax: 02 9910 6201**
Email: ahie@envirolab.com.au	**Email: jhurst@envirolab.com.au**

Analysis Underway, details on the following page:

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

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 metalsin 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.

Envirolab Services Pty Ltd
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12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

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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Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

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 p-Terphenyl-d14	%	89

Organochlorine Pesticides in soil		
Our Reference	UNITS	317874-1
Your Reference		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	Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004. Results reported denoted with * are outside our scope of NATA accreditation. **NOTE** #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF) **NOTE** #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. Estimation = Estimated asbestos weight Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Metals-020	Determination of various metals by ICP-AES.
Metals-021	Determination of Mercury by Cold Vapour AAS.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis.
Org-020	Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. Note, the Total +ve TRH PQL is reflective of the lowest individual PQL and is therefore "Total +ve TRH" is simply a sum of the positive individual TRH fractions (>C10-C40).
Org-021	Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD.

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.

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]

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]
Surrogate Dibromofluorometha	%		Org-023	104	[NT]	[NT]	[NT]	[NT]	101	[NT]
Surrogate aaa-Trifluorotoluene	%		Org-023	120	[NT]	[NT]	[NT]	[NT]	106	[NT]
Surrogate Toluene-d_8	%		Org-023	100	[NT]	[NT]	[NT]	[NT]	105	[NT]
Surrogate 4-Bromofluorobenzene	%		Org-023	112	[NT]	[NT]	[NT]	[NT]	106	[NT]

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]

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]

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]

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]

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]

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.**

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)

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)

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

Notes

Contact

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

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.

Global Leader - Results you can trust

eurofins

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

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Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

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

Project Name: ADDITIONAL - NTH SYD
Project ID: ADDITIONAL - 64150

Order No.:
Report #: 971316
Phone: 02 8245 0300
Fax:

Received: Mar 13, 2023 9:36 AM
Due: Mar 14, 2023
Priority: 1 Day
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	Sydney	Mar 13, 2023	7 Days
- Method: LTM-ORG-2130 PAH and Phenols in Soil and Water			
Heavy Metals	Sydney	Mar 13, 2023	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
USA Leaching Procedure	Sydney	Mar 13, 2023	14 Days
- Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes			

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

Project Name: ADDITIONAL - NTH SYD
Project ID: ADDITIONAL - 64150

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Received: Mar 13, 2023 9:36 AM
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Contact Name: Alison Smith

Eurofins Analytical Services Manager : Andrew Black

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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

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Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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 (*bis*-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

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. 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.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	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				Result 1					
Lead	S23-Ma0030256	NCP	%	101			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Chromium	S23-Ma0030256	NCP	%	106			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
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				Result 1	Result 2	RPD			
Benzo(a)pyrene	S23-Ma0030229	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
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				Result 1	Result 2	RPD			
Chromium	S23-Ma0022620	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
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:

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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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