Health Infrastructure NSW

Hazardous Building Materials Survey

Shoalhaven Community Pre-School and
Nowra Recreation Park
Shoalhaven Street, Nowra NSW

2 May 2022

62585/144,950 (Rev A)

JBS&G Australia Pty Ltd

www.jbsg.com.au

Health Infrastructure NSW

Hazardous Building Materials Survey

Shoalhaven Community Pre-School and
Nowra Recreation Park
Shoalhaven Street, Nowra NSW

2 May 2022

62585/144,950 (Rev A)

JBS&G Australia Pty Ltd

Table of Contents

List of Tables

List of Figures

Appendices

Abbreviations

Term	Definition
AC	Asbestos Cement
ACM	Asbestos Containing Material
ACD	Asbestos Containing Dust
ANZECC	Australian and New Zealand Environment Conservation Council
AMP	Asbestos Management Plan
COC	Chain of Custody
EPA NSW	Environmental Protection Authority, New South Wales
FA	Friable Asbestos
HIL	Health Investigation Levels
HSL	Health Screening Levels
JBS&G	JBS&G Australia Pty Ltd
LAA	Licenced Asbestos Assessor
LCD	Lead Containing Dust
LOR	Limit of Reporting
LP	Lead Paint
NATA	National Association of Testing Authorities, Australia
NEPC	National Environmental Protection Council
NEPM	National Environmental Protection Measure
PCB	Polychlorinated Biphenyls
PPE	Personal Protective Equipment
SMF	Synthetic Mineral Fibre
SWA	Safe Work Australia
SWNSW	SafeWork New South Wales
WHS (WH&S)	Workplace Health and Safety

1. Introduction

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Health Infrastructure NSW (HI, the client) to undertake a hazardous building materials survey (HBMS) of the structures associated with the proposed Shoalhaven District Memorial Hospital Redevelopment, located on Shoalhaven Street, Nowra, NSW (the site). The site location and layout are shown in **Figure 1** and **Figure 2**.

It is understood that as part of the proposed Shoalhaven District Memorial Hospital Redevelopment, the existing Shoalhaven Community Preschool and the Nowra Recreational Park toilet blocks are required to be demolished to facilitate the expansion and redevelopment of the hospital.

The structures on the site were inspected for the following hazardous materials:

- Asbestos containing materials (ACMs);
- Asbestos containing dust (ACD);
- Lead based paints (LP);
- Lead containing Dust (LCD)
- Synthetic mineral fibres (SMF); and
- Polychlorinated biphenyls (PCB).

This advice presents the outcomes of the inspection undertaken by JBS&G personnel and provides recommendations on requirements for the removal of identified hazardous materials in accordance with regulations and guidance in force at the time of the inspection.

No previous hazardous building materials survey reports or registers were made available to JBS&G prior to the completion of this HBMS.

1.2 Objectives

The objective of the HBMS was to determine the presence, quantity, and condition of any hazardous materials within the structures prior to proposed demolition works.

The HBMS and production of this report have been undertaken in accordance with the requirements of:

- *Work Health and Safety Act* (2011);
- *Work Health and Safety Regulation* (2017);
- *How to Safely Remove Asbestos Code of Practice*, SafeWork NSW, (2019) (SWNSW 2019a);
- *How to Manage and Control Asbestos in the Workplace Code of Practice*, SafeWork NSW (2019) (SWNSW 2019b);
- Australian Standard 4361.2 (1998) *Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings* (AS4361.2-1998);
- Australian Standard 4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* (AS4361.2-2017);
- National Occupational Health and Safety Commission's *National Standard for Synthetic Mineral Fibres* [NOHSC:1004(1990)];
- National Occupational Health and Safety Commission's *National Code of Practice for the Safe Use of Synthetic Mineral Fibres*, [NOHSC:2006(1990)];

- Australian and New Zealand Environment Conservation Council's *Identification of PCB-containing Capacitors: An information booklet for Electricians and Electrical Contractors*, (ANZECC 1997); and
- NSW EPA *Waste Classification Guidelines Part 1: Classifying Waste* (NSW EPA 2014).

1.3 Hazardous Materials Survey Limitations

Whilst all reasonable care has been taken by JBS&G during the completed HBMS, this report is limited due to:

- Only safely accessible areas of the site were surveyed.
- Access restrictions to operational areas such as energised services, gas, air conditioning/heating, pressurised vessels, chemical lines etc.
- Potential materials located in areas in which they could not reasonably be envisaged or anticipated.
- Limited access to internal building components e.g. set floor, walls, ceiling cavities etc., in which case only representative areas were inspected with the hand tools available to the JBS&G consultants for minor destructive investigation.
- Access restrictions to areas above 3 metres or any area deemed inaccessible without the use of specialised equipment.
- Access to restrictions to areas of structures where the structural integrity for the floor and/or ceiling has been compromised.
- Service pits, confined spaces, voids, cavities within the building structure and internal areas of plant and equipment that could not be safely accessed.

It should be noted that buildings built between the 1930s - 1980s may have general occurrences of ACMs in areas which are not readily accessible with the hand tools available for the survey. These areas and materials include, inter alia:

- Fibre Cement Sheeting (FCS) used as packing to bearers and joists in the underfloor void or as boxing/shuttering to concrete formwork;
- FCS packing between window/door frames and timber studs; and
- Compressed FCS underneath tiled floor areas.

Whilst all care is taken by the consultants to uncover hidden materials, not all areas can be accessed within the allowable timeframe without more industrial (power) tools. As such, only minor destructive sampling techniques were employed to gain access within authorised areas. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of hazardous material has been detected. JBS&G recommends that areas inaccessible during the survey be inspected as the demolition progresses. If suspected hazardous materials are observed, confirm the presence or absence of hazardous materials through laboratory testing.

In the event suspected hazardous materials are identified during strip out or demolition which are not included in this report, JBS&G recommends that works should cease, and an assessment of the materials undertaken by a competent person for further appropriate recommendations.

No one section or part of a section of this report is to be taken as giving an overall idea of this report. Each section is to be read in conjunction with the whole of this report, including the appendices and attachments.

2. Methodology

2.1 Hazardous Materials

2.1.1 Asbestos Containing Materials and Asbestos Containing Dust

Representative samples of suspected ACMs and ACDs were collected where possible and placed into a zip-lock bags. These were subsequently delivered to a NATA accredited laboratory for analysis using polarised light microscopy in conjunction with dispersion staining techniques. Similar materials to those analysed or other materials known to contain asbestos from the consultant's experience (e.g. Electrical backing boards, corrugated asbestos cement roofs and older fibre cement sheeting) or materials not accessible may also be assumed to contain asbestos as per the relevant Code of Practice.

At the time of inspection, the following details were recorded:

- Location;
- Type of material;
- Accessibility;
- Condition;
- Friability; and
- Volume/dimensions.

2.1.2 Lead Based Paint

Australian Standard AS4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* defines lead paints as those in which the lead content (calculated as lead metal) is in excess of 0.1 percent by weight of the dry film. This can be determined by field spot tests, laboratory testing or the use of portable X-ray fluorescence (XRF) field tests. JBS&G utilises XRF technology as a screening tool for the identification of lead based paints in the field. Any detection of lead greater than 0.0 mg/cm^2 was adopted for the assessment of lead based paints for this investigation with representative samples collected where possible and delivered to a NATA accredited laboratory for analysis using inductively coupled plasma optical emission spectrometry (ICP-OES).

2.1.3 Lead Containing Dust

Representative samples of accumulated or settled dust were collected and delivered to a NATA accredited laboratory for analysis via ICP-OES. A conservative assessment criteria was adopted for this investigation given the potential for human exposure and the readily disturbed and uncontained nature of accumulated or settled dust.

Concentrations of lead within accumulated or settled dust were compared against the health investigation level (HIL) for residential sites with garden/accessible soil of 300 mg/kg as outlined in National Environment Protection Measure (NEPC 2013) guidelines.

2.1.4 Polychlorinated Biphenyls

Old fluorescent light fittings and other appliances which may contain capacitors containing PCB dielectric oil are identified by inspection and evaluation with the consultant's experience of similar light fittings and appliances. Alternatively, where possible and when it was safe to do so, a representative light fitting was opened to reveal the capacitor and the make and model recorded to be compared against the ANZECC (1997) list of PCB containing capacitors.

2.1.5 Synthetic Mineral Fibres

SMF containing materials were either sampled as per the asbestos methodology or assumed to contain SMF from the consultant's experience of similar materials.

2.2 Inaccessible Areas

As per SWNSW 2019b, any areas not accessible must be recorded as such. Where hazardous materials are suspected to be contained within inaccessible areas, these shall be documented in this report and the associated Hazardous Materials Register (**Appendix A**).

3. Site Description

The HBMS was conducted on 11 April 2022 by Stuart Lumsden, one of JBS&G's experienced hazardous materials surveyors and a SafeWork NSW Licensed Asbestos Assessor (LAA 001140).

The site was bound by the Shoalhaven District Memorial Hospital to the north and west, Shoalhaven Street to the east, and North Street to the south. The Shoalhaven Community Pre-School comprised the northeast portion of the site with the remaining site area comprising the Nowra Recreation Park.

The type, location, friability, accessibility, and approximate quantities of identified and suspected hazardous materials are provided in the Hazardous Materials Register in **Appendix A**. Photographs taken during the HBMS are presented in **Appendix B**. A summary of the observations made during the HBMS is included in the following sections.

3.1 Shoalhaven Community Pre-School

The Shoalhaven Community Pre-School was located in the northeast portion of the site and comprised two single storey structures identified as the 'Storage Shed' and the Main Building'. At the time of inspection, the Shoalhaven Community Pre-School was occupied and operational.

3.1.1 Storage Shed

The Storage Shed was located in the southern portion of the Shoalhaven Community Pre-School and comprised a combination of fibre cement sheet and timber external wall cladding, corrugated sheet metal roof lining, concrete flooring, and fibre cement sheeting to the internal walls and ceiling (toilet only).

Internally, the majority of the Storage Shed comprised a store room and was utilised to store equipment and the eastern portion comprised a children's toilet.

A summary of the observations made during the HBMS are as follows:

- Asbestos containing fibre cement sheeting (A01) was identified to the north, east and south eaves.
- Asbestos containing fibre cement sheeting (A02) was identified to the external wall cladding to the north, east and south walls of the eastern half of the store room. The external wall cladding to the western half of the store room comprised timber.
- Asbestos containing mastic sealant (A03) was identified to the external toilet window.
- Non-asbestos containing fibre cement sheeting (A04) was identified to the internal walls and ceiling to the toilet.
- An electrical backing board was identified within the electrical cabinet to the western aspect of the structure and comprised a timber composite material, therefore is not suspected to contain asbestos.
- Lead based cream paint (L01, 0.16% w/w) was identified to the external wall cladding.
- Lead based green paint (L02, 0.13% w/w) was identified to the external timber fascia, door jambs and trim, and roller doors.
- A single fluorescent light fitting was identified within the store room and a detailed inspection was not possible due to the supply of live electricity. However, based on the age and appearance of the light fitting it is not suspected to contain a PCB containing capacitor.

3.1.2 Main Building

The Main Building was located in the central portion of the Shoalhaven Community Pre-School and comprised timber external weatherboard wall cladding, corrugated metal roof, timber flooring with various floor coverings, and Masonite internal walls and ceilings.

Internally, the southern portion comprised the “Emerald Room” with a large open play area, store room, laundry, toilets and staff meeting room. The northern portion comprised the “Opal Room” with a large open play area, kitchen, staff meeting room, and office.

A summary of the observations made during the HBMS are as follows:

- Assumed asbestos containing fibre cement sheeting was identified to the external north gable.
- Assumed asbestos containing fibre cement sheeting was also identified to the gable wall within the northern portion of the ceiling cavity. Significant damage was observed to the material and there is the potential for fibre cement debris to be within the ceiling cavity in the vicinity of the damaged wall sheeting. Access to this portion of the ceiling cavity was not possible due to height access restrictions and no northern ceiling cavity access point.
- Non-asbestos containing fibre cement sheeting (A05) was identified to the internal partition wall within the Emerald Room laundry. This material was also identified to the northern wall of the toilets.
- An electrical backing board was identified within the electrical cabinet to the western aspect of the structure and comprised a timber composite material, therefore is not suspected to contain asbestos.
- Elevated lead concentrations within settled dust above the adopted site criteria (LD01, 860 mg/kg) was identified within the ceiling cavity. This dust was also found not to contain asbestos (AD01).
- Lead based cream paint (L03, 0.13% w/w) was identified to the external timber wall cladding and fascia
- Lead based green paint (L04, 1.7% w/w) was identified to the external timber doors, door jambs and trim.
- Lead based white & cream paint (L05, 2.9% w/w) was identified to the internal timber architraves and skirting boards throughout.
- Lead based grey paint (L06, 0.37% w/w) was identified to the walls throughout the Emerald Room.
- Non-lead based grey paint (L07, < 0.01% w/w) was identified to the internal walls throughout the Opal Room.
- The grey paint to the internal timber ceiling beams within the Emerald Room was screened via XRF spectrometer and is assumed to comprise lead based paint (XRF result > 5.00 mg/cm^2).
- All remaining accessible paint systems were screened via XRF spectrometer and classified as non-lead based paints (XRF result = 0.00 mg/cm^2).
- Fluorescent light fittings were identified throughout the internal areas of the structure and a detailed inspection was not possible due to the supply of live electricity. However, based on the age and appearance of the light fittings throughout these are not suspected to contain PCB containing capacitors.

- Assumed SMF insulation batts were identified throughout the ceiling cavity.

3.2 Nowra Recreation Park

The Nowra Recreation Park comprised the remaining portion of the site with two single storey toilet block structures in the southern portion of the park, adjacent North Street. The two structures comprised male toilets (the western structure) and female toilets (the eastern structure) with corrugated metal roofs, concrete floors, and brick walls.

At the time of inspection, the toilet facilities were closed and no longer operational.

A summary of the observations made during the HBMS are as follows:

- Non-lead based red/brown paint (L08, < 0.01% w/w) was identified to the external walls to both the male toilets and female toilets.
- Lead based green paint (L09, 0.16% w/w) was identified to the external timber fascia, doors and frames to both the male toilets and female toilets.
- All remaining accessible paint systems were screened via XRF spectrometer and classified as non-lead based paints (XRF result = 0.00 mg/cm^2).
- No other hazardous materials were identified at the time of inspection.

4. Results

4.1 Hazardous Materials

All identified hazardous materials are recorded in the Hazardous Materials Register in **Appendix A** with relevant photographs in **Appendix B**. NATA accredited laboratory analysis reports and chain of custody are provided in **Appendix C**.

4.1.1 Asbestos Containing Materials

ACM were identified by testing at an accredited NATA laboratory and/or visual inspection using the experience of the hazardous materials surveyor. A summary of the results of laboratory testing for asbestos are provided in **Table 4.1** below.

Table 4.1: Asbestos Results Summary Table

Sample ID	Lab ID	Structure	Sample Location	Results	Observed Condition
Shoalhaven Community Pre-School					
A01	22-Ap0025324	Storage Shed	North, east and south aspect, eaves – fibre cement sheeting	**Chrysotile Asbestos**	Non-Friable
A02	22-Ap0025325	Storage Shed	Eastern half, north, east and south external wall cladding – fibre cement sheeting	**Chrysotile and Crocidolite Asbestos**	Non-Friable
A03	22-Ap0025326	Storage Shed	Toilet window – mastic sealant	**Chrysotile Asbestos**	Non-Friable
A04	22-Ap0025327	Storage Shed	Toilet, internal walls and ceiling – fibre cement sheeting	No Asbestos Detected	N/A
A05	22-Ap0025328	Main Building	Laundry, dividing wall – fibre cement sheeting	No Asbestos Detected	N/A
Nowra Recreation Park					
No material samples were collected at the time of inspection					

4.1.2 Asbestos Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for asbestos are provided in **Table 4.2** below:

Table 4.2: Asbestos Dust Results Summary Table

Sample ID	Lab ID	Structure	Sample Location	Results	Observed Condition
Shoalhaven Community Pre-School					
AD01	22-Ap0025339	Main Building	Ceiling cavity – settled dust	No Asbestos Detected	N/A
Nowra Recreation Park					
No dust samples were collected at the time of inspection					

4.1.3 Lead Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for lead are provided in **Table 4.3** below:

Table 4.3: Lead Dust Results Summary Table

Sample ID	Lab ID	Structure	Sample Location	Results	Observed Condition
Shoalhaven Community Pre-School					
LD01	22-Ap0025329	Main Building	Ceiling cavity – settled dust	**860 mg/kg**	Poor
Nowra Recreation Park					
No dust samples were collected at the time of inspection					

4.1.4 Lead Based Paints

Representative paint samples were collected throughout the building for laboratory testing. A summary of the results of laboratory testing for lead are provided in **Table 4.4** below.

Table 4.4: Lead Paint Results Summary Table

Sample ID	Lab ID	Structure	Sample Location	Results	Observed Condition
Shoalhaven Community Pre-School					
L01	22-Ap0025330	Storage Shed	External cladding – cream paint	**0.16% w/w**	Fair
L02	22-Ap0025331	Storage Shed	External timber fascia, door jambs and roller doors – green paint	**0.13% w/w**	Fair
L03	22-Ap0025332	Main Building	External timber cladding and fascia – cream paint	**0.13% w/w**	Fair
L04	22-Ap0025333	Main Building	External timber doors, jambs and trim – green paint	**1.7% w/w**	Fair
L05	22-Ap0025334	Main Building	Internal timber architraves and skirting boards – white/cream paint	**2.9% w/w**	Good
L06	22-Ap0025335	Main Building	Emerald Room, walls – grey paint	**0.37% w/w**	Good
L07	22-Ap0025336	Main Building	Opal Room, walls – grey paint	< 0.01% w/w	N/A
XRF	-	Main Building	Emerald Room, ceiling beams – grey paint	**> 5.00 mg/cm^2**	Good
Nowra Recreation Park					
L08	22-Ap0025337	Male/Female Toilets	External brick walls – red/brown paint	< 0.01% w/w	N/A
L09	22-Ap0025338	Male/Female Toilets	External timber fascia, doors and frames	**0.16% w/w**	Fair

4.1.5 Polychlorinated Biphenyls

Detailed inspection of capacitors in light fittings could not be undertaken due to the electricity supply to the fittings being active, however, based on the age and appearance of the light fittings, they are not suspected to contain PCB containing capacitors.

4.1.6 Synthetic Mineral Fibres

Assumed SMF insulation batts were identified throughout the ceiling cavity of the Main Building within the Shoalhaven Community Pre-School.

4.2 Inaccessible Areas

No areas at the site were identified as inaccessible.

5. Conclusions and Recommendations

Based on the scope of this assessment and with reference to the limitations included in **Section 6**, the following conclusions are made with respect to the Hazardous Materials Survey completed.

5.1 Hazardous Materials

Identified and suspected hazardous materials were observed throughout the building as a result of visual identification and laboratory analysis.

The following recommendations are made for the removal of the identified hazardous materials to potentially mitigate harmful effects as a result of the proposed works program. The person with management or control of the site, must ensure so far as is reasonably practicable that the identified hazardous materials are removed prior to the commencement of demolition works.

The identified and suspected hazardous materials are presented in the Hazardous Materials Register included as **Appendix A**.

5.1.1 Asbestos Containing Materials

Non-friable ACM has been identified in various forms throughout the site. Prior to the commencement of demolition works, it is recommended that the following work is undertaken:

- A Class A or B licensed asbestos removalist shall be engaged to remove all asbestos containing materials as identified in the Hazardous Materials Register (**Appendix A**). Removal and disposal of non-friable asbestos materials shall be undertaken in accordance with the *Work Health and Safety Act (*2011), *Work Health and Safety Regulation* (2017) and SWNSW 2019a.
- While not mandatory during the removal of non-friable ACM, it is considered best practice and recommended that asbestos air monitoring is undertaken during any non-friable asbestos removal works.
- Following removal works, a clearance inspection shall be completed by a competent person or licensed asbestos assessor to ensure that the asbestos materials identified at the site have been removed to a satisfactory standard. Following the completion of the clearance inspection, a clearance certificate shall be issued by the competent person or LAA to confirm that the ACM has been successfully removed and that the site is suitable for planned demolition works to commence.

5.1.2 Lead Containing Dust

Elevated levels of lead in dust above the adopted site criteria were identified at the site. A suitably experienced hazardous materials removal contractor should be engaged to remove the lead containing dust in accordance with the AS4361.2-2017 prior to the commencement of any demolition or refurbishment works.

5.1.3 Lead Based Paints

The lead based paints, as identified in Hazardous Materials Register (**Appendix A**), ranged in condition from good to fair and should be managed in accordance with the AS4361.2-2017. Where peeling or deteriorated they should be removed under controlled conditions by an experienced contractor prior to demolition.

Stable lead based paints adhered to building fabric can be disposed as general solid waste in accordance with NSW EPA 2014 provided care is taken to minimise any potential for paint flakes to be dispersed onto ground surfaces and building and demolition waste is not proposed to be recycled.

Removed lead paint waste from education sites has been pre-classified as General Solid Waste (non-putrescible) as per NSW EPA 2014 and can be disposed in accordance with this classification to suitably licensed waste facilities.

5.1.4 Polychlorinated Biphenyls

No PCB containing materials were identified at the time of inspection.

5.1.5 Synthetic Mineral Fibres

The synthetic mineral fibres encountered during this inspection were generally contained and deemed to be low risk. These SMF materials can be removed with the building and demolition waste with care taken not to generate fibres. Appropriate PPE is recommended including the use of P2 respirator as minimum and appropriate removal methodology as outlined in [NOHSC: 1004(1990)] and [NOHSC: 2006(1990)].

5.2 Inaccessible Areas

Areas inaccessible during the current HBMS should be inspected by a suitably qualified competent person prior to any works commencing. Suspected ACM should be sampled by a suitably qualified competent person prior to any works commencing.

5.3 Unexpected Finds

Any materials deemed to be consistent with those detailed in the Hazardous Materials Register that have not been previously identified should be assumed to have the same content and be treated accordingly.

Should any additional suspected hazardous materials be observed during or prior to demolition works, works should cease until a suitably qualified occupational hygienist can assess the suspected hazardous material and provide appropriate recommendations for management and/or removal.

6. 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 enquiries.

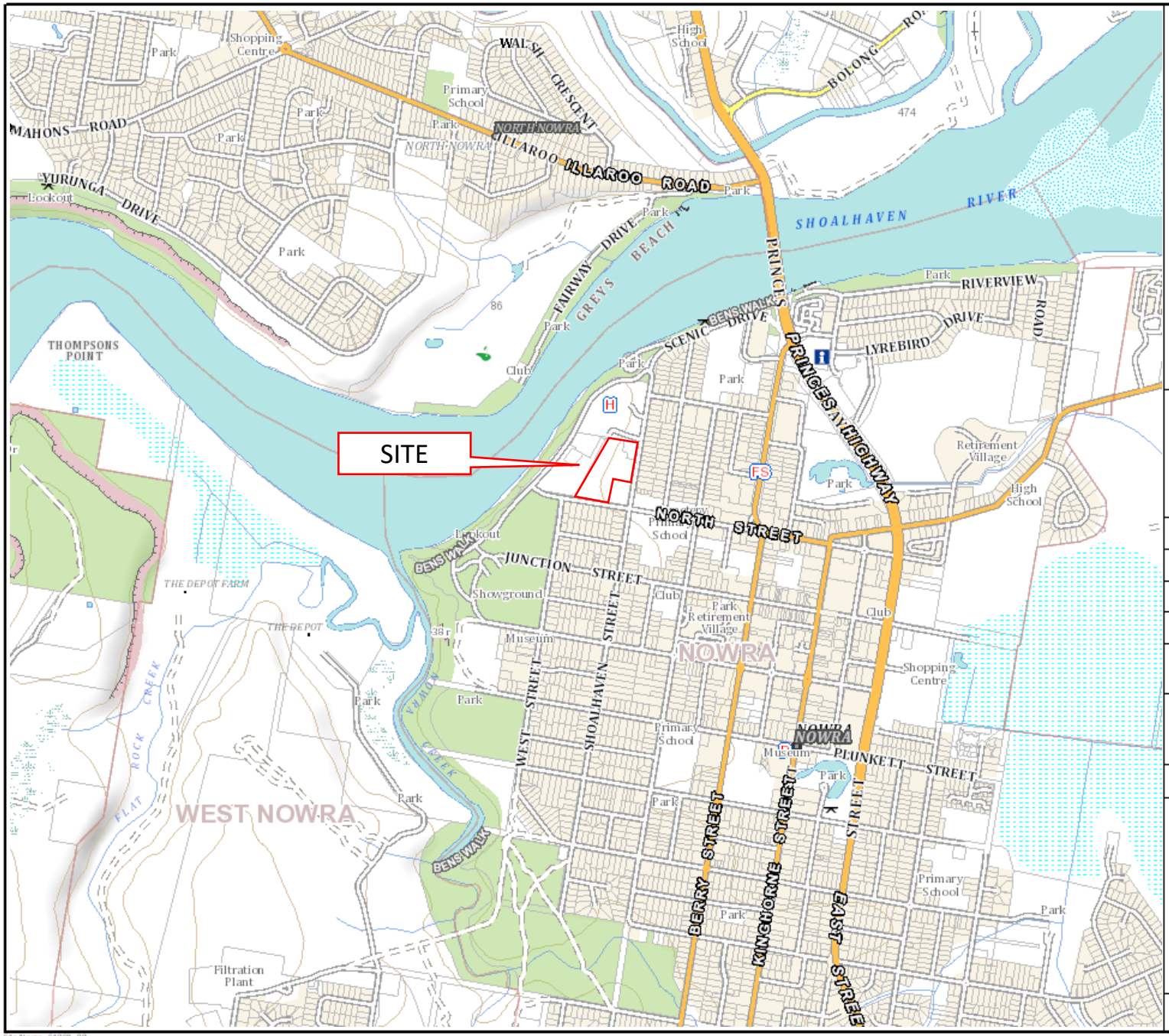
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the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

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

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

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

Figures



Legend:

Approximate Site Boundary

JBS&G

Job No: 62585	
Client: Health Infrastructure NSW	
Version: R01 Rev A	Date: 27/04/2022
Drawn By: SL	Checked By: MS
Approximate Scale	
Coor. Sys. GDA 1994 MGA Zone 56	

Shoalhaven Community Pre-School and Nowra Recreation Park, Shoalhaven Street, Nowra, NSW

SITE LOCATION

FIGURE: 1

File Name: 54256_02
Reference: Base Map - http://www.nearmap.com.au/

Legend:

Approximate Site Boundary

JBS&G

Job No: 62585

Client: Health Infrastructure NSW

Version: R01 Rev A | Date: 27/04/2022

Drawn By: SL | Checked By: MS

Approximate Scale

Coor. Sys. GDA 1994 MGA Zone 56

Shoalhaven Community Pre-School and Nowra Recreation Park, Shoalhaven Street, Nowra, NSW

SITE LAYOUT

FIGURE: 2

File Name: 54256_02
Reference: Near Map - http://www.nearmap.com.au/

Appendix A Hazardous Materials Register

Hazardous Materials Register (Rev A)
Shoalhaven District Memorial Hospital Redevelopment,
Shoalhaven Street, Nowra NSW
Shoalhaven Community Pre-School
Date of Production – 2nd May 2022

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
A01	Storage Shed, north, east and south aspect, eaves	Fibre cement sheeting	4	Yes	Non-Friable	**Chrysotile Asbestos**	Good	20 m²	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	11/4/2022 JBS&G SL & RS	
A02	Storage Shed, eastern half, north, east and south external wall cladding	Fibre cement sheeting	5	Yes	Non-Friable	**Chrysotile and Crocidolite Asbestos**	Good	35 m²	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	11/4/2022 JBS&G SL & RS	
A03	Storage Shed, toilet window	Mastic sealant	6	Yes	Non-Friable	**Chrysotile Asbestos**	Good	1 m²	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	11/4/2022 JBS&G SL & RS	
-	Main Building, north gable	Fibre cement sheeting	7	Yes	Non-Friable	**Assumed Asbestos**	Good	15 m²	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	11/4/2022 JBS&G SL & RS	
-	Main Building, ceiling cavity, northern portion, gable wall	Fibre cement sheeting	8	No	Non-Friable	**Assumed Asbestos**	Poor	15 m²	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	11/4/2022 JBS&G SL & RS	
No Asbestos Detected											
A04	Storage Shed, toilet, internal walls and ceiling	Fibre cement sheeting	9	Yes	-	No Asbestos Detected	-	-	No further action required	11/4/2022 JBS&G SL & RS	
A05	Main Building, laundry, dividing wall	Fibre cement sheeting	10	Yes	-	No Asbestos Detected	-	-	No further action required	11/4/2022 JBS&G SL & RS	
As per A05	Main Building, toilets, north wall	Fibre cement sheeting	11	Yes	-	Assumed Non-Asbestos	-	-	No further action required	11/4/2022 JBS&G SL & RS	
AD01	Main Building, ceiling cavity	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required	11/4/2022 JBS&G SL & RS	

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Lead Containing Dust											
LD01	Main Building, ceiling cavity	Settled dust	12	Yes	-	860 mg/kg	Poor	375 m^2	Remove prior to demolition by an experience hazardous materials removal contractor in accordance with AS4361.2-2017.	11/4/2022 JBS&G SL & RS	
Lead Based Paints											
L01	Storage Shed, external cladding	Cream paint	13	Yes	-	**0.16% w/w**	Fair	200 m2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	11/4/2022 JBS&G SL & RS	
L02	Storage Shed, external timber fascia, door jambs and roller doors	Green paint	14	Yes	-	**0.13% w/w**	Fair		Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	11/4/2022 JBS&G SL & RS	

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
L03	Main Building, external timber cladding and fascia	Cream paint	15	Yes	-	**0.13% w/w**	Fair		Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	11/4/2022 JBS&G SL & RS	
L04	Main Building, external timber doors, jambs and trim	Green paint	16	Yes	-	**1.7% w/w**	Fair		Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	11/4/2022 JBS&G SL & RS	
L05	Main Building, internal timber architraves and skirting boards	White/cream paint	17	Yes	-	**2.9% w/w**	Good		Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	11/4/2022 JBS&G SL & RS	

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
L06	Main Building, Emerald Room, walls	Grey paint	18	Yes	-	**0.37% w/w**	Good		Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	11/4/2022 JBS&G SL & RS	
XRF	Main Building, Emerald Room, ceiling beams	Grey paint	19	Yes	-	**> 5.00 mg/cm²**	Good		Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	11/4/2022 JBS&G SL & RS	
Non-Lead Based Paints											
L07	Main Building, Opal Room, walls	Grey paint	-	Yes	-	< 0.01% w/w	-	-	No further action required	11/4/2022 JBS&G SL & RS	
Polychlorinated Biphenyls (PCBs)											
No PCB materials were identified at the time of inspection.									-	11/4/2022 JBS&G SL & RS	
Synthetic Mineral Fibres (SMF)											
-	Main Building, ceiling cavity	Insulation batts	20	Yes	Bonded	**Assumed SMF**	Good	375 m²	Remove in accordance with NOHSC:2006 (1990)	11/4/2022 JBS&G SL & RS	

Hazardous Materials Register (Rev A)
Shoalhaven District Memorial Hospital Redevelopment,
Shoalhaven Street, Nowra NSW
Nowra Recreation Park
Date of Production – 2nd May 2022

JBS&G SAMPLE NO.	LOCATION	MATERIAL DESCRIPTION	PHOTO NUMBER	ACCESSIBLE AREA?	FRIABILITY	ANALYTICAL RESULT	MATERIAL CONDITION	APPROX. QUANTITY	ACTION REQUIRED	DATE OF LAST INSPECTION (INCL. COMPANY NAME AND INITIALS)	DATE OF CONTROL ACTION &/OR REMOVAL
Asbestos Containing Materials (ACM)											
No Asbestos Containing Materials were identified at the time of inspection									-	11/4/2022 JBS&G SL & RS	
Lead Based Paints											
L09	Male and Female Toilets, timber fascia, doors and trim	Green paint	23	Yes	-	**0.16% w/w**	Fair	200 m^2	Remove loose and flaking paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017. Remaining paint well adhered to the building materials may be demolished if care is taken not to spread paint flakes to surrounding areas. Alternatively, remove all paint prior to demolition by an experienced hazardous materials removal contractor in accordance with AS4361.2-2017.	11/4/2022 JBS&G SL & RS	
Non-Lead Based Paints											
L08	Male and Female Toilets, external walls	Red/brown paint	24	Yes	-	< 0.01% w/w	-	-	No further action required	11/4/2022 JBS&G SL & RS	
Polychlorinated Biphenyls (PCBs)											
No PCB materials were identified at the time of inspection.									-	11/4/2022 JBS&G SL & RS	
Synthetic Mineral Fibres (SMF)											
No SMF materials were identified at the time of inspection.									-	11/4/2022 JBS&G SL & RS	

Appendix B Photographs

Photo 1: Overview of the Shoalhaven Community Pre-School

Photo 2: Overview of the Storage Shed

Photo 3: Overview of the Main Building

Photo 4: Storage Shed – asbestos containing fibre cement sheeting to the eaves

Photo 5: Storage Shed – asbestos containing fibre cement sheeting to the external cladding

Photo 6: Storage Shed – asbestos containing mastic sealant to the toilet window

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	27/4/2021

JBS&G

Appendix B: Photographs

Client: Health Infrastructure NSW

Project: Shoalhaven Pre-School HBMS

Job No: 62585 File Name: R01 App B - Photo Log

Photo 7: Main Building – assumed asbestos containing fibre cement sheeting to the north gable

Photo 8: Main Building – assumed asbestos containing fibre cement sheeting to the gable wall within the ceiling cavity

Photo 9: Storage Shed – non-asbestos containing fibre cement sheeting to the internal walls and ceiling of the toilet

Photo 10: Main Building – non-asbestos containing fibre cement sheeting to the laundry partition wall

Photo 11: Main Building – non-asbestos containing fibre cement sheeting to the north wall of the toilets

Photo 12: Main Building – lead containing dust throughout the ceiling cavity

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	27/4/2021

JBS&G

Appendix B: Photographs

Client: Health Infrastructure NSW

Project: Shoalhaven Pre-School HBMS

Job No: 62585 File Name: R01 App B - Photo Log

Photo 13: Storage Shed – lead based cream paint to the external cladding

Photo 14: Storage Shed – lead based green paint to the external fascia, door jambs and roller doors

Photo 15: Main Building – lead based cream paint to the external cladding and fascia

Photo 16: Main Building – lead based green paint to the external timber doors, jambs and trim

Photo 17: Main Building – lead based white/cream paint to the internal timber architraves and skirting boards

Photo 18: Main Building – lead based grey paint to the internal walls throughout the Emerald Room

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	27/4/2021

JBS&G

Appendix B: Photographs

Client: Health Infrastructure NSW

Project: Shoalhaven Pre-School HBMS

Job No: 62585 File Name: R01 App B - Photo Log

Photo 19: Main Building – assumed lead based green paint to the timber ceiling beams within the Emerald Room

Photo 20: Main Building – Assumed SMF insulation batts throughout the ceiling cavity

Photo 21: Overview of the Male Toilets – Nowra Recreation Park

Photo 22: Overview of the Female Toilets – Nowra Recreation Park

Photo 23: Male/Female Toilets – lead based green paint to the external timber fascia, doors and trim

Photo 24: Male/Female Toilets – non-lead based red/brown paint to the external walls

Source:

Rev	Description	Drn.	Date
0	Original Issue -	SL	27/4/2021

Appendix B: Photographs

Client: Health Infrastructure NSW

Project: Shoalhaven Pre-School HBMS

Job No: 62585 File Name: R01 App B - Photo Log

Appendix C Laboratory Analysis Reports and Chain of Custody Documentation

Certificate of Analysis

Environment Testing

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.

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

Attention:	Stuart Lumsden
Report	879436-AID
Project Name	SHOALHAVEN
Project ID	62585
Received Date	Apr 12, 2022
Date Reported	Apr 22, 2022

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 SHOALHAVEN
Project ID 62585
Date Sampled Apr 11, 2022
Report 879436-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
A01	22-Ap0025324	Apr 11, 2022	Approximate Sample 1g / 20x15x4mm Sample consisted of: Grey fibre plaster cement material	Chrysotile asbestos detected. Organic fibre detected.
A02	22-Ap0025325	Apr 11, 2022	Approximate Sample 1g / 25x10x5mm Sample consisted of: Grey fibre cement material	Chrysotile and crocidolite asbestos detected.
A03	22-Ap0025326	Apr 11, 2022	Approximate Sample 1g / 60x5x2mm Sample consisted of: Grey mastic material	Chrysotile asbestos detected.
A04	22-Ap0025327	Apr 11, 2022	Approximate Sample 1g / 25x20x7mm Sample consisted of: Grey fibre plaster cement material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
A05	22-Ap0025328	Apr 11, 2022	Approximate Sample 1g / 30x20x5mm Sample consisted of: Grey layered fibre cement	No asbestos detected. Organic fibre detected. No trace asbestos detected.
AD01	22-Ap0025339	Apr 11, 2022	Approximate Sample 3g Sample consisted of: Dust particles, fragments of plaster, cement, soft fibrous material, adhesive like material, paint flakes, sand and debris	No asbestos detected at the reporting limit of 0.01% w/w. Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.

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	Apr 22, 2022	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Apr 22, 2022	Indefinite

eurofins | Environment Testing

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

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

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

Sydney
179 Magowar Road
Girraween NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

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

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

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

Project Name: SHOALHAVEN
Project ID: 62585

Order No.:
Report #: 879436
Phone: 02 8245 0300
Fax:

Received: Apr 12, 2022 2:30 PM
Due: Apr 21, 2022
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	A01	Apr 11, 2022		Building Materials	S22-Ap0025324		X		
2	A02	Apr 11, 2022		Building Materials	S22-Ap0025325		X		
3	A03	Apr 11, 2022		Building Materials	S22-Ap0025326		X		
4	A04	Apr 11, 2022		Building Materials	S22-Ap0025327		X		
5	A05	Apr 11, 2022		Building Materials	S22-Ap0025328		X		
6	LD01	Apr 11, 2022		Dust	S22-			X	

eurofins | Environment Testing

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

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

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

Sydney
179 Magowar Road
Girraween NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

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

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

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

Project Name: SHOALHAVEN
Project ID: 62585

Order No.:
Report #: 879436
Phone: 02 8245 0300
Fax:

Received: Apr 12, 2022 2:30 PM
Due: Apr 21, 2022
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
					Ap0025329				
7	L01	Apr 11, 2022		Paint	S22-Ap0025330				X
8	L02	Apr 11, 2022		Paint	S22-Ap0025331				X
9	L03	Apr 11, 2022		Paint	S22-Ap0025332				X
10	L04	Apr 11, 2022		Paint	S22-Ap0025333				X
11	L05	Apr 11, 2022		Paint	S22-Ap0025334				X
12	L06	Apr 11, 2022		Paint	S22-Ap0025335				X

eurofins | Environment Testing

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

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

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

Sydney
179 Magowar Road
Girraween NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

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

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

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

Project Name: SHOALHAVEN
Project ID: 62585

Order No.:
Report #: 879436
Phone: 02 8245 0300
Fax:

Received: Apr 12, 2022 2:30 PM
Due: Apr 21, 2022
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
13	L07	Apr 11, 2022		Paint	S22-Ap0025336				X
14	L08	Apr 11, 2022		Paint	S22-Ap0025337				X
15	L09	Apr 11, 2022		Paint	S22-Ap0025338				X
16	AD01	Apr 11, 2022		Dust	S22-Ap0025339	X			
Test Counts						1	5	1	9

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. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. 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.
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

Sample Integrity

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

Asbestos Counter/Identifier:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias	Senior Analyst-Asbestos (NSW)
Sayeed Abu	Senior Analyst-Asbestos (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

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

NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Stuart Lumsden**

Report **879436-S**
Project name SHOALHAVEN
Project ID 62585
Received Date Apr 12, 2022

Client Sample ID			**LD01**	**L01**	**L02**	**L03**
Sample Matrix			**Dust**	**Paint**	**Paint**	**Paint**
Eurofins Sample No.			**S22-Ap0025329**	**S22-Ap0025330**	**S22-Ap0025331**	**S22-Ap0025332**
Date Sampled			**Apr 11, 2022**	**Apr 11, 2022**	**Apr 11, 2022**	**Apr 11, 2022**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	5	mg/kg	860	-	-	-
Lead (% w/w)	0.01	%	-	0.16	0.13	0.13

Client Sample ID			**L04**	**L05**	**L06**	**L07**
Sample Matrix			**Paint**	**Paint**	**Paint**	**Paint**
Eurofins Sample No.			**S22-Ap0025333**	**S22-Ap0025334**	**S22-Ap0025335**	**S22-Ap0025336**
Date Sampled			**Apr 11, 2022**	**Apr 11, 2022**	**Apr 11, 2022**	**Apr 11, 2022**
Test/Reference	LOR	Unit				
Lead (% w/w)	0.01	%	1.7	2.9	0.37	< 0.01

Client Sample ID			**L08**	**L09**
Sample Matrix			**Paint**	**Paint**
Eurofins Sample No.			**S22-Ap0025337**	**S22-Ap0025338**
Date Sampled			**Apr 11, 2022**	**Apr 11, 2022**
Test/Reference	LOR	Unit		
Lead (% w/w)	0.01	%	< 0.01	0.16

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
Heavy Metals	Sydney	Apr 21, 2022	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Lead (% w/w)	Sydney	Apr 19, 2022	6 Months
- Method: LTM-MET-3040 Metals in Waters Soils & Sediments by ICP-MS			

eurofins | Environment Testing

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

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

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

Sydney
179 Magowar Road
Girraween NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

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

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

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

Project Name: SHOALHAVEN
Project ID: 62585

Order No.:
Report #: 879436
Phone: 02 8245 0300
Fax:

Received: Apr 12, 2022 2:30 PM
Due: Apr 21, 2022
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	A01	Apr 11, 2022		Building Materials	S22-Ap0025324		X		
2	A02	Apr 11, 2022		Building Materials	S22-Ap0025325		X		
3	A03	Apr 11, 2022		Building Materials	S22-Ap0025326		X		
4	A04	Apr 11, 2022		Building Materials	S22-Ap0025327		X		
5	A05	Apr 11, 2022		Building Materials	S22-Ap0025328		X		
6	LD01	Apr 11, 2022		Dust	S22-			X	

eurofins | Environment Testing

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

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

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

Sydney
179 Magowar Road
Girraween NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

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

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

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

Project Name: SHOALHAVEN
Project ID: 62585

Order No.:
Report #: 879436
Phone: 02 8245 0300
Fax:

Received: Apr 12, 2022 2:30 PM
Due: Apr 21, 2022
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
					Ap0025329				
7	L01	Apr 11, 2022		Paint	S22-Ap0025330				X
8	L02	Apr 11, 2022		Paint	S22-Ap0025331				X
9	L03	Apr 11, 2022		Paint	S22-Ap0025332				X
10	L04	Apr 11, 2022		Paint	S22-Ap0025333				X
11	L05	Apr 11, 2022		Paint	S22-Ap0025334				X
12	L06	Apr 11, 2022		Paint	S22-Ap0025335				X

eurofins | Environment Testing

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

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

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

Sydney
179 Magowar Road
Girraween NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

Eurofins ARL Pty Ltd
ABN: 91 05 0159 898

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

Eurofins Environment Testing NZ Limited
NZBN: 9429046024954

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

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

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

Project Name: SHOALHAVEN
Project ID: 62585

Order No.:
Report #: 879436
Phone: 02 8245 0300
Fax:

Received: Apr 12, 2022 2:30 PM
Due: Apr 21, 2022
Priority: 5 Day
Contact Name: Stuart Lumsden

Eurofins Analytical Services Manager : Ursula Long

Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	X
Brisbane Laboratory - NATA # 1261 Site # 20794									
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
13	L07	Apr 11, 2022		Paint	S22-Ap0025336				X
14	L08	Apr 11, 2022		Paint	S22-Ap0025337				X
15	L09	Apr 11, 2022		Paint	S22-Ap0025338				X
16	AD01	Apr 11, 2022		Dust	S22-Ap0025339	X			
Test Counts						1	5	1	9

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

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									
Lead			mg/kg	< 5			5	Pass	
Method Blank									
Lead (% w/w)			%	< 0.01			0.01	Pass	
LCS - % Recovery									
Heavy Metals									
Lead			%	93			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	N22-Ap0034967	NCP	%	75			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	N22-Ap0034979	NCP	mg/kg	49	52	6.0	30%	Pass	

Comments

Sample Integrity

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

Authorised by:

Ursula Long	Analytical Services Manager
Gabriele Cordero	Senior Analyst (NSW)
Sayeed Abu	Senior Analyst (NSW)
Laxman Dias	Senior Analyst (NSW)

Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

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

Chain of Custody

JBS&G

PROJECT NO.: 62585	LABORATORY BATCH NO.:
PROJECT NAME: Shoalhaven	SAMPLERS: S. Lumsden
DATE NEEDED BY: Standard TAT	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) slumsden@jbsg.com.au; (3) .....@jbsg.com.au

COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

SAMPLE ID	MATRIX	DATE	TIME	TYPE & PRESERVATIVE	pH	Asbestos	Lead	TYPE OF ASBESTOS ANALYSIS: IDENTIFICATION	TYPE OF ASBESTOS ANALYSIS: NEPM/WA	NOTES:
A01	material	11/4/22		1 x bag		X				
A02	↓	↓	↓	↓	↓	X				
A03						X				
A04						X				
A05						X				
AD01	Dust					X				
LD01	Dust						X			
L01	Paint						X			
L02	↓						X			
L03							X			
L04							X			
L05							X			
L06							X			
L07							X			
L08							X			
L09							X			

RELINQUISHED BY:	METHOD OF SHIPMENT:	RECEIVED BY:	FOR RECEIVING LAB USE ONLY:
NAME: Stuart Lumsden DATE: 12/4/22	CONSIGNMENT NOTE NO.	NAME: Elika Kabassi	COOLER SEAL – Yes..... No ..... Intact ..... Broken .....
OF: JBS&G	TRANSPORT CO.	DATE: 12/04 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

879436

Document Distribution

Rev No.	Copies	Recipient	Date
A	1 x Electronic	David Wood david.wood@johnstaff.com.au	2/5/2022

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Stuart Lumsden	Michael Samuel	Michael Samuel		2/5/2022