Carmichael Tompkins Property Group Pty Ltd

Hazardous Building Materials Survey

Kambala School
794 New South Head Road,
Rose Bay, NSW

7 April 2020

58081/127691 (Rev 1)

JBS&G Australia Pty Ltd

www.jbsg.com.au

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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 (JBS&G) was engaged by Carmichael Tomkins Property Group Pty Ltd (CTPG, the client) to conduct a hazardous building materials survey (HBMS) of the structures associated with the proposed redevelopment at Kambala School, 794 New South Head Road, Rose Bay, NSW (the site). The site comprised the proposed redevelopment areas and is legally defined as part Lot 67 in Deposited Plan (DP) 2538 and Lots 1 to 7 and 9 to 12 in DP1116858. The site location is shown in **Figure 1** and the site layout is shown in **Figure 2**.

It is understood that the proposed Sports Precinct is located within the north-eastern portion of the school and currently comprises a sports field, tennis courts, associated shed structures, and the Music Building. The broader school redevelopment also includes the Hawthorne Building, Arts Building and Tivoli Building.

In order for the proposed development to proceed, a hazardous building material survey of existing structures within the proposed development area was required to address Secretary's Environmental Assessment Requirements (SEARs).

It is understood that the sports fields, tennis courts and associated shed structures are proposed to be demolished with proposed modifications to the Music Building to facilitate the redevelopment. Additionally, the Arts Building, southeast portion of the Tivoli Building, and the northern portion of the Hawthorne Building and are also proposed to be demolished in a future stage of the broader school redevelopment. The scope of the HBMS was limited to these structures. No other areas of the Kambala School were surveyed as part of this HBMS.

The structures 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).

A previous asbestos register for the entire Kambala School, as detailed in **Section 1.4**, was provided to JBS&G prior to the completion of these works and the information presented in this previous survey was used in the preparation of this report.

1.2 Objectives

The objective of the HBMS was to determine the presence, quantity and condition of any hazardous materials within the buildings 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)]; and
- Australian and New Zealand Environment Conservation Council's *Identification of PCB-containing Capacitors: An information booklet for Electricians and Electrical Contractors*, (ANZECC 1997).

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 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. 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.

1.4 Previous Hazardous Material and Asbestos Survey Works

1.4.1 KPMG SGA (2015) – Asbestos Register and Management Plan

An Asbestos Register and Management Plan was prepared for the whole Kambala School Campus by KPMG SGA in 2015 (KPMG SGA 2015[1]). The inspection included a non-destructive survey of the school buildings constructed prior to 2004 for potential ACM, as well as limited sampling of the identified potential ACM.

The report details the presence, quantity, condition and location of any identified ACM. The survey was limited to asbestos materials only and did not include any other hazardous materials.

Based on a review of KPMG SGA 2015, the ACM identified – as relevant to the investigation areas in this HBMS – is summarised below:

- Fibre cement sheeting to ceiling of level 2 corridor of the Hawthorne Building;
- Fibre cement sheeting to the eaves of the Hawthorne Building; and
- Putty seal to external timber windows on the southern aspect of the Hawthorne Building, although the specific items listed were identified to be outside the scope of this HBMS.

The information presented in KPMG SGA 2015 was used in the preparation of this report

[1] *Asbestos Register and Management Plan, Kambala, 794 New South Head Road, Rose Bay, NSW.* KPMG SGA, Project No. 95500, February 2015. (KPMG SGA 2015)

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. A detection of lead greater than 0.1 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 February 2020 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 Bayview Hill Road to the north, New South Head Road to the east and south, and the remaining portion of the Kambala School to the southwest and west.

The investigation area comprised eight structures, as shown on **Figure 2**, and were identified as follows:

- Hawthorne Building (northern portion only);
- Toilet Block;
- Hydrant Booster;
- Shed;
- Sports Equipment Store;
- Music Building;
- Arts Building; and
- Tivoli Building (southeast portion only).

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 Hawthorne Building (Northern Portion)

The extent of the HBMS within the Hawthorn Building was limited to the northern portion only. No other areas of the Hawthorne Building were included as part of this HBMS.

The northern portion of the Hawthorne Building comprised a two-storey structure with cement tile roof, concrete floors, concrete and suspended tile ceilings, and a combination of exposed brick, cement rendered brick and plasterboard internal walls.

At the time of inspection, the internal areas comprised classrooms, reception and administration offices.

A summary of the significant observations made during the HBMS is as follows:

- Suspected asbestos containing fibre cement eaves and undercloak verge were identified to the external northern aspect. Representative samples were unable to be collected due to height safety hazards.
- Non-asbestos containing fibre cement sheeting (A-01) was identified to the reception entry soffit.
- Non-asbestos containing fibre cement sheeting (A-02) was identified to the west entry soffit.
- Non-asbestos containing fibre cement sheeting (A-03) was identified to the northeast entry soffit.
- Non-asbestos containing settled dust (AD-01) was identified to the floor surface of the ground floor comms room. This dust also contained lead concentrations below the adopted site criteria (LD-01, 25 mg/kg).

- Lead concentrations within settled dust within the roof void (LD-02, 330 mg/kg) were slightly elevated above the adopted site criteria. This dust was also found not to contain asbestos (AD-02).
- A number of non-lead based paints were identified throughout the building as follows:
  - Black paint to the aluminium framed windows (LP-01, < 0.01% w/w);
  - Cream paint to the west entry stair handrails (LP-02, 0.02% w/w);
  - Cream paint to the northern wall of the ground floor corridor (LP-03, < 0.01% w/w); and
  - Cream paint to the northern wall of the first floor corridor (LP-04, < 0.01% w/w).
- The fluorescent light fittings identified throughout the building were of modern age and appearance. These light fittings are not suspected to contain PCB containing capacitors.
- Suspected SMF lagging was identified to a pipe running along the northern side of the ground floor corridor.
- Suspected SMF containing suspended ceiling tiles were identified to the ground floor classroom and administration offices, and the first floor administration offices.
- Suspected SMF insulation was identified to the air conditioning ducting throughout the roof void.
- Suspected SMF insulation batts were identified to the east wall of the roof void.
- The previously identified suspected asbestos containing fibre cement sheeting to the ceiling of the level 2 corridor was unable to be located at the time of inspection. It is assumed that the material has been removed since KPMG SGA 2015, however, no removal or clearance documentation was made available to JBS&G.

3.2 Toilet Block

The Toilet Bock comprised a three storey structure adjoining the Hawthorne Building to the east with a corrugated metal roof, concrete floors, exposed brick external walls, concrete and plasterboard ceilings, and ceramic tiled brick internal walls. Internally, each floor comprised toilet facilities with identical layouts.

No hazardous materials were identified at the time of inspection.

3.3 Hydrant Booster

The Hydrant Booster was located in the southern corner of the sports field and comprised a corrugated metal shed structure with a concrete floor. The Hydrant Booster comprised a motor, pump and associated pipework within the structure and external pipework and valves.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing gaskets (A-04) were identified to the external pipework. Similar gaskets were also identified to the internal pipework.
- Lead based red/orange paint (LP-05, 3.0% w/w) was identified to the external pipework, internal pipework, motor and pump. This paint system was observed to be in fair condition with minor deterioration.

3.4 Shed

The Shed was located adjacent to the Hydrant Booster in the southern corner of the sports field and comprised a corrugated metal shed structure with a concrete floor.

No hazardous materials were identified at the time of inspection.

3.5 Sports Equipment Store

The Sports Equipment Store was located in the northern corner of the sports fields, adjacent the tennis courts and comprised corrugated metal roof and external walls, concrete floor, and fibre cement sheet internal wall partitions.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing fibre cement sheeting (A-05) was identified to the internal wall partitions.
- Lead concentrations within settled dust (LD-03, 38 mg/kg) below the adopted site criteria was identified to the internal floor surface.
- The fluorescent light fittings identified throughout the building were of modern age and appearance. These light fittings are not suspected to contain PCB containing capacitors.

3.6 Music Building

The Music Building was located in the northwest portion of the site and comprised a single storey structure with the tennis courts located on the roof. The eastern portion of the Music Building was constructed in 1973 with the western portion (Ann & John Lewis Wing) constructed in 2011.

The building comprised a concrete roof (with tennis courts), exposed brick external walls, concrete floors with various coverings, cement rendered brick and plasterboard internal walls, and a combination of suspended ceiling, fixed plasterboard exposed concrete ceilings.

It is understood that the entire Music Building is not proposed to be demolished as part of the redevelopment, however, minor demolition and refurbishments are planned.

Based on the age of the Ann & John Lewis Wing, no ACMs, PCBs, or lead paints/dusts are suspected to be present in this portion of the building.

A summary of the significant observations made during the HBMS is as follows:

- Non-lead based green paint (LP-06, 0.07% w/w) was identified to the plant room doors.
- Lead concentrations within settled dust to the plant room floor (LD-04, 250 mg/kg) were slightly below the adopted site criteria. This dust was also found not to contain asbestos (AD-03).
- Non-asbestos containing cream vinyl floor tiles (A-06) were identified to the staff kitchen in the eastern portion of the building.
- Asbestos containing fibre cement sheeting (A-07) was identified to the internal linings of the fire hose reel cupboard in the eastern portion. This material was also identified to the girls and staff toilets in the eastern portion.
- An instant hot water system was identified in the kitchen within the eastern portion and is suspected to contain internal SMF insulation.
- Suspected SMF insulation was identified to the suspended ceiling tiles in the main hallway within the eastern portion.
- Suspected SMF insulation was identified to the air conditioning plant and ducting within the plant room.
- An instant hot and cold water system was identified in the kitchen of the Ann & John Lewis Wing.

- Old fluorescent light fittings were identified throughout the eastern portion and are suspected to contain PCB capacitors, however, a detailed inspection was not possible due to the supply of live electricity.

3.7 Arts Building

The Arts Building was located in the southern portion of the site and comprised a double storey structure constructed in 1979. The eastern portion comprised a lecture theatre and the western portion comprised the arts rooms.

The building comprised a corrugated metal roof, exposed brick external walls, cement rendered brick internal walls, concrete floors, and a combination of suspended tile and concrete ceilings.

It is understood that the Arts Building is proposed to be demolished within a later stage of the redevelopment.

A summary of the significant observations made during the HBMS is as follows:

- A suspected asbestos contain electrical mounting board was identified within the electrical cabinet in the lecture theatre plant room. A sample was unable to be collected due to the supply of live electricity.
- Suspected asbestos containing mastic was identified to the flange joints of the air conditioning ducting within the lecture theatre plant room. A sample was unable to be collected due to height safety hazards.
- Suspected asbestos containing mastic was identified to the metal framed windows to the western portion. A sample was unable to be collected due to height safety hazards.
- Suspected asbestos containing fibre cement sheeting was identified to the external fascia and external west entry soffit to the western portion. The material was in good condition and samples were unable to be collected without causing visible damage.
- Non-asbestos containing brown vinyl flooring (A-08) was identified to the pottery classroom and associated store rooms on the ground floor.
- Non-asbestos containing brown vinyl flooring (A-09) was identified to the arts classrooms and associated store rooms on the first floor.
- Lead concentrations within settled dust to the lecture theatre plant room floor (LD-05, 200 mg/kg) were below the adopted site criteria. This dust was also found not to contain asbestos (AD-04).
- Non-lead based cream paint (LP-07, < 0.01% w/w) was identified to the internal walls throughout.
- A number of suspected SMF materials were identified within the lecture theatre plant room as follows:
    - Internal insulation to the boiler;
    - Insulation lagging to pipework throughout;
    - Internal insulation to the air conditioning plant; and
    - Insulation sarking to the roof and walls.
- Suspected SMF insulation was identified to the air conditioning ducting within the south hallway ceiling cavities.
- Suspected SMF insulation sarking was identified to the roof of the western portion.

- Old fluorescent light fittings were identified within the lecture theatre plant room and are suspected to contain PCB capacitors, however, a detailed inspection was not possible due to the supply of live electricity.

3.8 Tivoli Building (Southeast Portion)

The extent of the HBMS within the Tivoli Building was limited to the southeast portion only. No other areas of the Tivoli Building were included as part of this HBMS.

The southeast portion of the Tivoli Building comprised a two-storey structure with slate tile roof, concrete and timber floors, plaster ceilings, and cement rendered brick walls. The ground floor comprised the school canteen and the first floor comprised a dormitory room.

It is understood that the southeast portion of the Tivoli Building and associated roof structures over the courtyard are proposed to be demolished within a later stage of the redevelopment.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing fibre cement roof shingles (A-10) were identified to the covered walkway adjacent to the east of the Tivoli Building.
- Non-asbestos containing fibre cement sheeting (A-11) was identified to the soffit linings of the roof structures to the canteen courtyard.
- Non-asbestos containing cream vinyl flooring (A-12) was identified to the canteen.
- Lead based cream paint (LP-08, 0.52% w/w) was identified to the external timber windows.
- Non-lead based cream paint (LP-09, 0.06% w/w) was identified to the external metal fire stairs.
- Based on the age of the building, all remaining internal and external paints are assumed to comprise lead based paints.
- There were no access points to the roof void of the southeast portion of the building, therefore, there is the potential for hazardous materials to be present within this area of the building.

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 A** below.

Table A: Asbestos Results Summary Table

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Hawthorne Building				
A-01	20-Fe13754	Reception entry soffit – fibre cement sheeting	No Asbestos Detected	N/A
A-02	20-Fe13755	West entry soffit – fibre cement sheeting	No Asbestos Detected	N/A
A-03	20-Fe13756	Northeast entry soffit – fibre cement sheeting	No Asbestos Detected	N/A
Hydrant Booster				
A-04	20-Fe13757	External pipework – gasket	No Asbestos Detected	N/A
Sports Equipment Store				
A-05	20-Fe13758	Internal partition walls – fibre cement sheeting	No Asbestos Detected	N/A
Music Building				
A-06	20-Ma42803	Eastern portion, staff kitchen – cream vinyl tiles	No Asbestos Detected	N/A
A-07	20-Ma42804	Eastern portion, fire hose reel cupboard – fibre cement sheeting	**Chrysotile Asbestos**	Non-Friable
Arts Building				
A-08	20-Ma42805	Ground floor pottery classroom & store rooms – brown vinyl	No Asbestos Detected	N/A
A-09	20-Ma42806	First floor arts classrooms & store rooms – brown vinyl	No Asbestos Detected	N/A
Tivoli Building				
A-10	20-Ma42807	Eastern covered walkway – fibre cement roof shingles	No Asbestos Detected	N/A
A-11	20-Ma42808	Canteen courtyard, soffits – fibre cement sheeting	No Asbestos Detected	N/A
A-12	20-Ma42809	Canteen – cream vinyl	No Asbestos Detected	N/A

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 B** below:

Table B: Asbestos Dust Results Summary Table

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Hawthorne Building				
AD-01	20-Fe13759	Ground floor, comms room – settled dust	No Asbestos Detected	N/A
AD-02	20-Fe13760	Roof void – settled dust	No Asbestos Detected	N/A
Music Building				

Sample ID	Lab ID	Sample Location	Results	Observed Condition
AD-03	20-Ma42810	Plant room floor – settled dust	No Asbestos Detected	N/A
Arts Building				
AD-04	20-Ma42811	Lecture theatre plant room – settled dust	No Asbestos Detected	N/A

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 C** below:

Table C: Lead Dust Results Summary Table

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Hawthorne Building				
LD-01	20-Fe13761	Ground floor, comms room – settled dust	25 mg/kg	N/A
LD-02	20-Fe13762	Roof void – settled dust	**330 mg/kg**	Poor
Sports Equipment Store				
LD-03	20-Fe13763	Mezzanine floor – settled dust	38 mg/kg	N/A
Music Building				
LD-04	20-Ma42812	Plant room floor – settled dust	250 mg/kg	N/A
Arts Building				
LD-05	20-Ma42813	Lecture theatre plant room – settled dust	200 mg/kg	N/A

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 D** below.

Table D: Lead Paint Results Summary Table

Sample ID	Lab ID	Sample Location	Results	Observed Condition
Hawthorne Building				
LP-01	20-Fe13764	Aluminium framed windows – black paint	Non-Lead Based Paint (< 0.01% w/w)	N/A
LP-02	20-Fe13765	West entry, stair handrails – cream paint	Non-Lead Based Paint (0.02% w/w)	N/A
LP-03	20-Fe13766	Ground floor corridor, north wall – cream paint	Non-Lead Based Paint (< 0.01% w/w)	N/A
LP-04	20-Fe13767	First floor corridor, north wall – cream paint	Non-Lead Based Paint (< 0.01% w/w)	N/A
Hydrant Booster				
LP-05	20-Fe13768	External pipework – red/orange paint	**Lead Based Paint (3.0% w/w)**	Fair
Music Building				
LP-06	20-Ma42814	Plant room doors – green paint	Non-Lead Based Paint (0.07% w/w)	N/A
Arts Building				
LP-07	20-Ma42815	Internal walls throughout – cream paint	Non-Lead Based Paint (< 0.01% w/w)	N/A
Tivoli Building				
LP-08	20-Ma42816	External timber windows – cream paint	**Lead Based Paint (3.0% w/w)**	Poor
LP-09	20-Ma42817	External metal fire stairs – cream paint	Non-Lead Based Paint (0.06% w/w)	N/A

4.1.5 Polychlorinated Biphenyls

Old fluorescent light fittings were identified within the lecture theatre plant room of the Arts Building and the eastern portion of the Music Building, and are suspected to contain PCB capacitors, however, a detailed inspection was not possible due to the supply of live electricity.

4.1.6 Synthetic Mineral Fibres

Suspected SMF materials were identified in various forms throughout the site. Full details of all identified SMF materials are provided in the Hazardous Materials Register (**Appendix A**). The typical forms of SMF identified are summarised below:

- Lagging to pipework;
- Suspended ceiling tiles;
- Internal insulation to instant and standard hot water systems, boilers, and instant hot and cold water systems;
- Insulation to roof sarking;
- Internal insulation to air conditioning plant; and
- Insulation to air conditioning ducting.

4.2 Inaccessible Areas

There was no access to the roof void of the southeast portion of the Tivoli Building due to no access point and there is the potential for hazardous materials to be present within the area.

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

Suspected non-friable ACM has been identified at the site. Prior to the demolition of the structures 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

Levels of lead in dust were identified slightly above the adopted site criteria within the roof void of the Hawthorne Building. A conservative approach is recommended to be implemented to manage this identified hazard during demolition and refurbishment works.

A suitably experienced hazardous materials removal contractor should be engaged to remove the lead containing dust prior to demolition. Lead dust waste removed from education facilities is pre-classified as General Solid Waste (non-putrescible) in accordance with the NSW Environmental Protection Authority (2014) *Waste Classification Guidelines – Part 1: Classifying Waste* (EPA 2014).

The roof void should remain restricted from general access until the lead dust hazard is removed.

Should the lead containing dust remain on site for an extended period of time, a lead management plan or similar should be prepared detailing the procedures and requirements to reduce the potential for lead dust exposure if site workers are required to access the hazardous area.

5.1.3 Lead Based Paints

Lead based paints identified in Hazardous Materials Register (**Appendix A**) should be managed in accordance with the AS4361.2-2017 If 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 removed as general solid waste provided care is taken to minimise any potential for paint flakes to be dispersed onto ground surfaces.

Any lead paint waste removed from an education facility is pre-classified as General Solid Waste (non-putrescible) (EPA 2014).

5.1.4 Polychlorinated Biphenyls

The old fluorescent light fittings within the lecture theatre plant room of the Arts Building and throughout the eastern portion of the Music Building should be removed and disposed of as Scheduled Waste or re-inspected once isolated from the electrical system to confirm the presence or absence of PCB capacitors.

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 enquires.

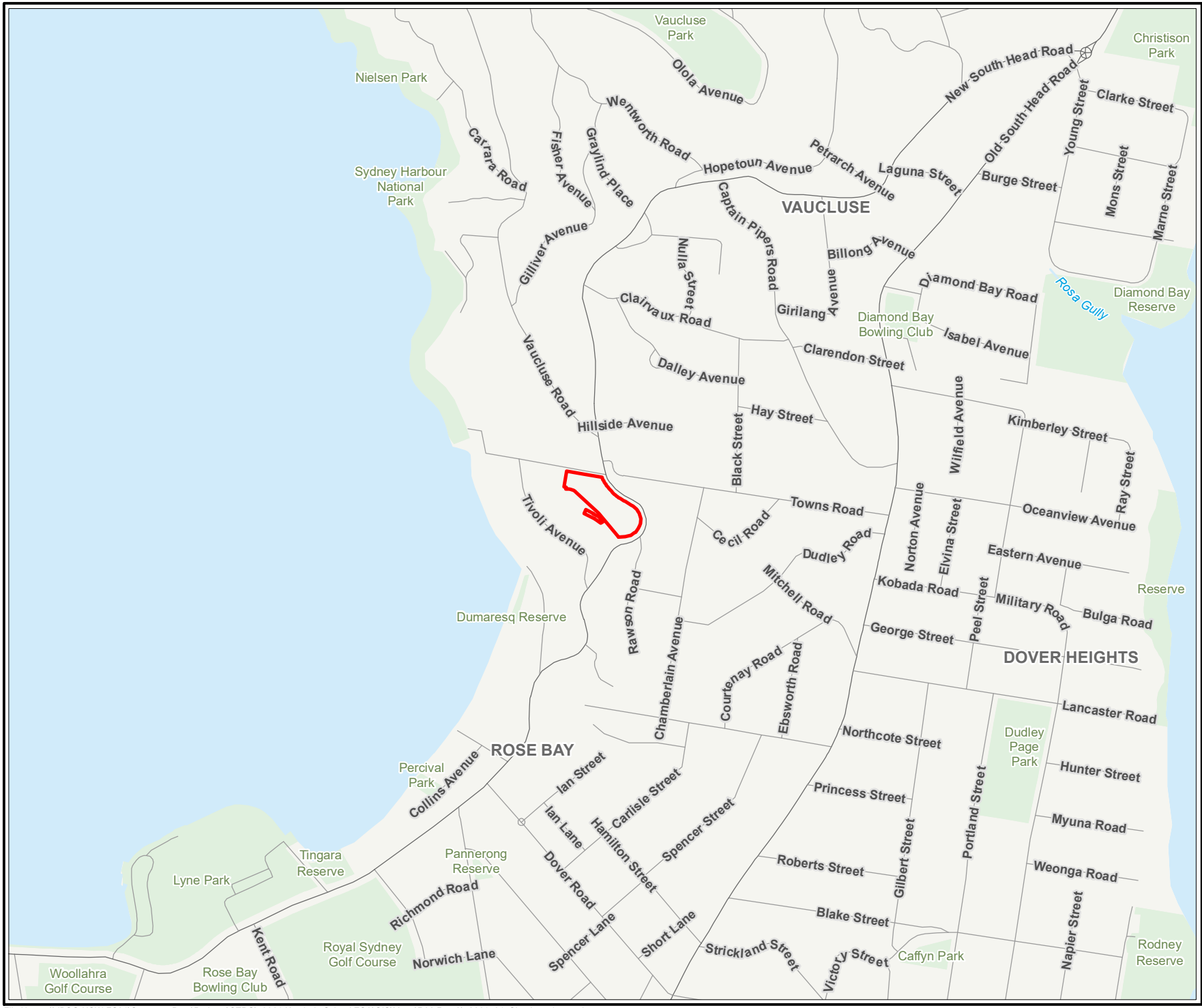
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the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

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

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

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

Figures



Legend:

- Site Boundary
- Parks and reserves
- Waterbody area
- Waterway
- Primary Road
- Local Road

JBS&G

Job No: 58081	
Client: CTPG	
Version: R02 Rev A	Date 24/02/2020
Drawn By: AS	Checked By: GB

Scale 1:10,000

0 120 240

metres

Coord. Sys. GDA 1994 MGA Zone 56

Kambala
794 New South Head Rd,
Rose Bay NSW 2029

SITE LOCATION

FIGURE 1

File Name: \\JBSG-NSW-FS01\Company Data\Projects\CTPG\58081 Kambala School ESA\GIS\Maps\R02 Rev A\58081_01_Site_Location.mxd
Reference: NSW DCS, 2020

Legend:
Approximate Site Boundary

JBS&G

Job No: 58081	
Client: CTPG	
Version: R02 Rev A	Date 24/02/2020
Drawn By: AS	Checked By: GB
Scale 1:1,000	

0 10 20
metres

Coord. Sys. GDA 1994 MGA Zone 56

Kambala
794 New South Head Rd,
Rose Bay NSW 2029

SITE LAYOUT

FIGURE 2

File Name: \\JBSG-NSW-FS01\Company Data\Projects\CTPG\58081 Kambala School ESA\GIS\Maps\R02 Rev A\58081_02_SiteLayout.mxd
Reference: Nearmap Imagery - 21-01-2020

Appendix A Hazardous Materials Register

Hazardous Materials Register (Rev 0)
Kambala School, 794 New South Head Road, Rose Bay, NSW
Hawthorne Building (Northern Portion)
Date of Production – 25/02/2020

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)											
-	External northern aspect - Eaves and undercloak verge	Fibre cement sheeting	2	No	Non-Friable	**Assumed Asbestos**	Good	40 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	11/2/2020 JBS&G SL	
~~Refer KPMG SGA 2015~~	~~First floor corridor, ceiling~~	~~Fibre cement sheeting~~	~~3~~	~~Yes~~	~~Non-Friable~~	~~**Assumed Asbestos**~~	~~Good~~	~~100 m^2~~	~~Manage in accordance with Code of Practice: How to manage and control asbestos in the workplace~~	~~21/1/2015 KPMG SGA~~	Material could not be located during JBS&G 2020 inspection. Assumed to have been removed. No clearance report available at the time of inspection
No Asbestos Detected (NAD)											
A-01	Reception entry soffit	Fibre cement sheeting	4	Yes	-	No Asbestos Detected	-	-	No further action required	11/2/2020 JBS&G SL	
A-02	West entry soffit	Fibre cement sheeting	-	Yes	-	No Asbestos Detected	-	-	No further action required	11/2/2020 JBS&G SL	
A-03	Northeast entry soffit	Fibre cement sheeting	5	Yes	-	No Asbestos Detected	-	-	No further action required	11/2/2020 JBS&G SL	
AD-01	Ground floor, comms room	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required	11/2/2020 JBS&G SL	
AD-02	Roof void	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required	11/2/2020 JBS&G SL	
Lead Containing Dust											
LD-01	Ground floor, comms room	Settled dust	-	Yes	-	25 mg/kg	-	-	No further action required	11/2/2020 JBS&G SL	
LD-02	Roof void	Settled dust	6	Yes	-	**330 mg/kg**	Poor	300 m^2	Remove in accordance with AS4361.2-2017 prior to demolition	11/2/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
Kambala School, 794 New South Head Road, Rose Bay, NSW
Hawthorne Building (Northern Portion)
Date of Production – 25/02/2020

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 Based Paints											
No Lead Based Paints were identified at the time of inspection									-	11/2/2020 JBS&G SL	
Non-Lead Based Paints											
LP-01	Aluminium framed windows	Black paint	-	Yes	-	<0.01% w/w	-	-	No further action required	11/2/2020 JBS&G SL	
LP-02	West entry stair handrails	Cream paint	-	Yes	-	0.02% w/w	-	-	No further action required	11/2/2020 JBS&G SL	
LP-03	Ground floor corridor – Northern wall	Cream paint	-	Yes	-	<0.01% w/w	-	-	No further action required	11/2/2020 JBS&G SL	
LP-04	First floor corridor – Northern wall	Cream paint	-	Yes	-	<0.01% w/w	-	-	No further action required	11/2/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
No PCB containing materials were identified at the time of inspection									-	11/2/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
-	Ground floor corridor – Northern side pipe	Lagging	7	Yes	-	**Assumed SMF**	Good	25 lin. m.	Remove in accordance with NOHSC:2006 (1990)	11/2/2020 JBS&G SL	
-	Ground floor classroom and administration offices – Ceiling	Ceiling tiles	8	Yes	-	**Assumed SMF**	Good	100 m^2	Remove in accordance with NOHSC:2006 (1990)	11/2/2020 JBS&G SL	
-	First floor administration offices – Ceiling	Ceiling tiles	8	Yes	-	**Assumed SMF**	Good	70 m^2	Remove in accordance with NOHSC:2006 (1990)	11/2/2020 JBS&G SL	
-	Roof void - air conditioning ducting	Insulation	9	Yes	-	**Assumed SMF**	Good	50 m^2	Remove in accordance with NOHSC:2006 (1990)	11/2/2020 JBS&G SL	
-	Roof void – East wall	Insulation batts	10	Yes	-	**Assumed SMF**	Good	1 m^2	Remove in accordance with NOHSC:2006 (1990)	11/2/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
Kambala School, 794 New South Head Road, Rose Bay, NSW
Toilet Block
Date of Production – 25/02/2020

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									-	11/2/2020 JBS&G SL	
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	11/2/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
No PCB containing materials were identified at the time of inspection									-	11/2/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
No SMF containing materials were identified at the time of inspection									-	11/2/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
Kambala School, 794 New South Head Road, Rose Bay, NSW
Hydrant Booster
Date of Production – 25/02/2020

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									-	11/2/2020 JBS&G SL	
No Asbestos Detected (NAD)											
A-04	External pipework	Gaskets	13	Yes	-	No Asbestos Detected	-	-	No further action required	11/2/2020 JBS&G SL	
Lead Based Paints											
LP-05	External and internal pipework, motor and pump	Red/orange paint	14	Yes	-	**3% w/w**	Fair	10 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.	11/2/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
No PCB containing materials were identified at the time of inspection									-	11/2/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
No SMF containing materials were identified at the time of inspection									-	11/2/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
Kambala School, 794 New South Head Road, Rose Bay, NSW
Shed
Date of Production – 25/02/2020

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									-	11/2/2020 JBS&G SL	
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	11/2/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
No PCB containing materials were identified at the time of inspection									-	11/2/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
No SMF containing materials were identified at the time of inspection									-	11/2/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
Kambala School, 794 New South Head Road, Rose Bay, NSW
Sports Equipment Store
Date of Production – 25/02/2020

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									-	11/2/2020 JBS&G SL	
No Asbestos Detected (NAD)											
A-05	Internal wall partitions	Fibre cement sheeting	17	Yes	-	No Asbestos Detected	-	-	No further action required	11/2/2020 JBS&G SL	
Lead Containing Dust											
LD-03	Mezzanine floor	Settled dust	18	Yes	-	38 mg/kg	-	-	No further action required	11/2/2020 JBS&G SL	
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	11/2/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
No PCB containing materials were identified at the time of inspection									-	11/2/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
No SMF containing materials were identified at the time of inspection									-	11/2/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
Kambala School, 794 New South Head Road, Rose Bay, NSW
Music Building
Date of Production – 07/04/2020

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)											
A-07	Eastern portion, fire hose reel cupboard	Fibre cement sheeting	20	Yes	Non-Friable	**Chrysotile Asbestos**	Good	2 m^2	If material to be disturbed as part of refurbishment works, remove prior to commencement of works. Works to be completed under controlled conditions by Class A licensed removal contractor in accordance with SWNSW 2019a. OR Leave in situ, manage in accordance with SWNSW 2019b and monitor condition	27/3/2020 JBS&G SL	
As per A-07	Eastern portion, girls toilet, walls	Fibre cement sheeting	-	Yes	Non-Friable	**Assumed Asbestos**	Good	20 m^2	If material to be disturbed as part of refurbishment works, remove prior to commencement of works. Works to be completed under controlled conditions by Class A licensed removal contractor in accordance with SWNSW 2019a. OR Leave in situ, manage in accordance with SWNSW 2019b and monitor condition	27/3/2020 JBS&G SL	
As per A-07	Eastern portion, staff toilet, walls	Fibre cement sheeting	21	Yes	Non-Friable	**Assumed Asbestos**	Good	15 m^2	If material to be disturbed as part of refurbishment works, remove prior to commencement of works. Works to be completed under controlled conditions by Class A licensed removal contractor in accordance with SWNSW 2019a. OR Leave in situ, manage in accordance with SWNSW 2019b and monitor condition	27/3/2020 JBS&G SL	
No Asbestos Detected (NAD)											
A-06	Eastern portion, staff kitchen, floor	Cream vinyl tiles	22	Yes	-	No Asbestos Detected	-	-	No further action required	27/3/2020 JBS&G SL	
AD-03	Plant room, floor	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required	27/3/2020 JBS&G SL	

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											
LD-04	Plant room, floor	Settled dust	-	Yes	-	250 mg/kg	-	-	No further action required	27/3/2020 JBS&G SL	
Lead Based Paints											
No Lead Based Paints were identified at the time of inspection									-	27/3/2020 JBS&G SL	
Non-Lead Based Paints											
LP-06	Plant room doors	Green paint	-	Yes	-	0.07% w/w	-	-	No further action required	27/3/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
Detailed inspection of light fittings throughout the eastern portion could not be undertaken due to active electricity supply and should be assumed to contain PCBs.									Undertake detailed inspection following isolation of electricity supply, OR Handle in accordance with ANZECC 1997	27/3/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
-	Eastern portion, staff kitchen, instant hot water system	Internal insulation	-	Yes	Bonded	**Assumed SMF**	Good	1 m^2	Remove in accordance with NOHSC:2006 (1990) or leave in-situ and manage in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	
-	Eastern portion, main hallway	Ceiling tiles	23	Yes	Bonded	**Assumed SMF**	Good	50 m^2	Remove in accordance with NOHSC:2006 (1990) or leave in-situ and manage in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	
-	Eastern portion, plant room, air conditioning plant and ducting	Insulation	24	Yes	Bonded	**Assumed SMF**	Good	10 m^2	Remove in accordance with NOHSC:2006 (1990) or leave in-situ and manage in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	
-	Ann & John Lewis Wing, kitchen, instant hot and cold water system	Internal insulation	-	Yes	Bonded	**Assumed SMF**	Good	1 m^2	Remove in accordance with NOHSC:2006 (1990) or leave in-situ and manage in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
Kambala School, 794 New South Head Road, Rose Bay, NSW
Arts Building
Date of Production – 07/4/2020

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)											
-	Lecture theatre plant room, electrical cabinet	Electrical mounting board	26	Yes	Non-Friable	**Assumed Asbestos**	Good	1 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	27/3/2020 JBS&G SL	
-	Lecture theatre plant room, air conditioning ducting	Mastic	27	Yes	Non-Friable	**Assumed Asbestos**	Good	10 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	27/3/2020 JBS&G SL	
	External metal windows	Mastic	28	Yes	Non-Friable	**Assumed Asbestos**	Good	30 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	27/3/2020 JBS&G SL	
	External west soffit and fascia cladding	Fibre cement sheeting	-	Yes	Non-Friable	**Assumed Asbestos**	Good	10 m^2	Remove prior to demolition. Works to be completed under controlled conditions by Class A or B licensed removal contractor in accordance with SWNSW 2019a	27/3/2020 JBS&G SL	
No Asbestos Detected (NAD)											
A-08	Ground floor pottery classroom and store rooms	Brown vinyl	-	Yes	-	No Asbestos Detected	-	-	No further action required	27/3/2020 JBS&G SL	
A-09	First floor arts classrooms and store rooms	Brown vinyl	-	Yes	-	No Asbestos Detected	-	-	No further action required	27/3/2020 JBS&G SL	
AD-04	Lecture theatre plant room, floor	Settled dust	-	Yes	-	No Asbestos Detected	-	-	No further action required	27/3/2020 JBS&G SL	
Lead Containing Dust											
LD-05	Lecture theatre plant room, floor	Settled dust	-	Yes	-	200 mg/kg	-	-	No further action required	27/3/2020 JBS&G SL	

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 Based Paints											
No Lead Based Paints were identified at the time of inspection									-	27/3/2020 JBS&G SL	
Non-Lead Based Paints											
LP-07	Internal walls throughout	Cream paint	-	Yes	-	<0.01% w/w	-	-	No further action required	27/3/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
Detailed inspection of light fittings within lecture theatre plant room could not be undertaken due to active electricity supply and should be assumed to contain PCBs.									Undertake detailed inspection following isolation of electricity supply, OR Handle in accordance with ANZECC 1997	27/3/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
-	Lecture theatre plant room, pipework	Lagging	29	Yes	Bonded	**Assumed SMF**	Good	25 lin. m.	Remove in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	
-	Lecture theatre plant room, boiler	Internal insulation	-	Yes	Bonded	**Assumed SMF**	Good	3 m^2	Remove in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	
-	Lecture theatre plant room, roof and wall sarking	Insulation	-	Yes	Bonded	**Assumed SMF**	Good	30 m^2	Remove in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	
-	Lecture theatre plant room, air conditioning plant	Internal insulation	-	Yes	Bonded	**Assumed SMF**	Good	10 m^2	Remove in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	
	South hallway ceiling cavities, air conditioning ducting	Insulation	-	Yes	Bonded	**Assumed SMF**	Good	50 m^2	Remove in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	
	Western portion, roof sarking	Insulation	30	Yes	Bonded	**Assumed SMF**	Good	150 m^2	Remove in accordance with NOHSC:2006 (1990)	27/3/2020 JBS&G SL	

Hazardous Materials Register (Rev 0)
Kambala School, 794 New South Head Road, Rose Bay, NSW
Tivoli Building (Southeast Portion)
Date of Production – 07/4/2020

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									-	27/3/2020 JBS&G SL	
No Asbestos Detected (NAD)											
A-10	East covered walkway, roof	Fibre cement shingles	32	Yes	-	No Asbestos Detected	-	-	No further action required	27/3/2020 JBS&G SL	
A-11	Canteen courtyard, soffits	Fibre cement sheeting	33	Yes	-	No Asbestos Detected	-	-	No further action required	27/3/2020 JBS&G SL	
A-12	Canteen, floor	Cream vinyl	-	Yes	-	No Asbestos Detected	-	-	No further action required	27/3/2020 JBS&G SL	
Lead Based Paints											
LP-08	External timber windows	Cream paint	34	Yes	-	**0.52% w/w**	Poor	10 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.	27/3/2020 JBS&G SL	

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
-	All internal and external paints	Various coloured paint systems	35/36	Yes	-	**Assumed Lead Paint**	Fair to Poor	> 100 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.	27/3/2020 JBS&G SL	
Non-Lead Based Paints											
LP-09	External metal fire stairs	Cream paint	-	Yes	-	0.06% w/w	-	-	No further action required	27/3/2020 JBS&G SL	
Polychlorinated Biphenyls (PCBs)											
No PCB containing materials were identified at the time of inspection									-	27/3/2020 JBS&G SL	
Synthetic Mineral Fibres (SMF)											
No SMF materials were identified at the time of inspection									-	27/3/2020 JBS&G SL	

Appendix B Photographs

Photo 1: Hawthorne Building – Overview

Photo 2: Hawthorne Building – Northern Aspect – Assumed asbestos containing eaves and undercloak verge

Photo 3: Hawthorne Building – previously identified asbestos containing fibre cement sheeting to the first floor corridor was unable to be located

Photo 4: Hawthorne Building – non-asbestos containing fibre cement sheeting to reception entry soffit

Photo 5: Hawthorne Building – non-asbestos containing fibre cement sheeting to northeast entry soffit

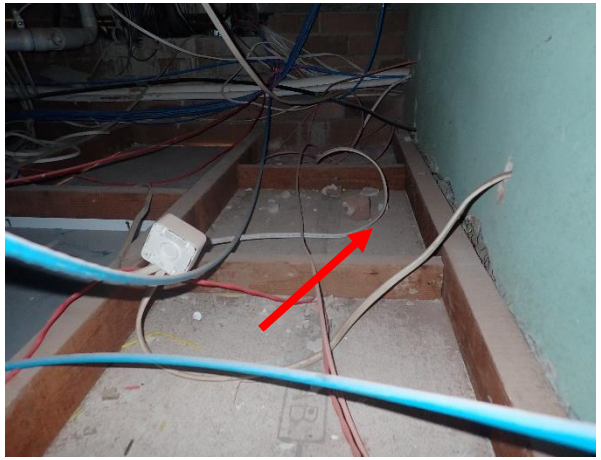


Photo 6: Hawthorne Building – Roof void – Lead containing dust

Source:

Rev	Description	Drn.	Date
1	Revision 1	SL	07/04/2020
0	Original Issue -	SL	25/02/2020

Appendix B: Photographs

Client: CTPG

Project: Kambala School HBMS

Job No: 58081 File Name: R02 App B - Photo Log

Photo 7: Hawthorne Building – Ground floor corridor – Suspected SMF pipe lagging

Photo 8: Hawthorne Building – Ground and first floor classroom and administration offices – Suspected SMF ceiling tiles

Photo 9: Hawthorne Building – Roof void air conditioning ducts – Suspected SMF insulation

Photo 10: Hawthorne Building – Roof void east wall – Suspected SMF insulation batts

Photo 11: Toilet Block - Overview

Photo 12: Hydrant Booster - Overview

Source:

Rev	Description	Drn.	Date
1	Revision 1	SL	07/04/2020
0	Original Issue -	SL	25/02/2020

JBS&G

Appendix B: Photographs

Client: CTPG

Project: Kambala School HBMS

Job No: 58081 File Name: R02 App B - Photo Log

Photo 13: Hydrant Booster – non-asbestos containing gaskets to external pipework

Photo 14: Hydrant Booster – lead based red/orange paint to internal pipework

Photo 15: Shed - Overview

Photo 16: Sports Equipment Store – Overview

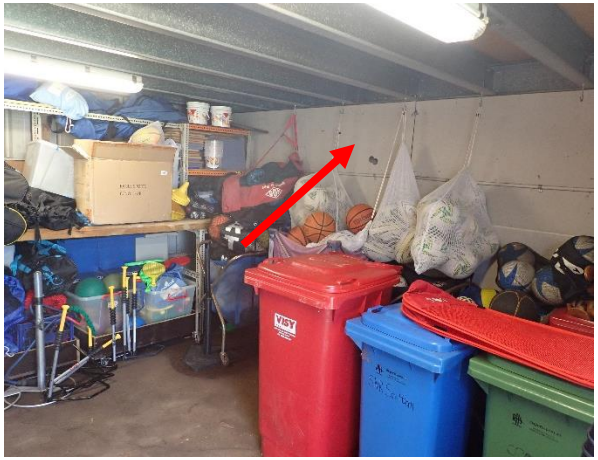


Photo 17: Sports Equipment Store – non-asbestos containing fibre cement sheeting to internal partition walls

Photo 18: Sports Equipment Store – lead containing dust below the site criteria to the mezzanine floor

Source:

Rev	Description	Drn.	Date
1	Revision 1	SL	07/04/2020
0	Original Issue -	SL	25/02/2020

JBS&G

Appendix B: Photographs

Client: CTPG

Project: Kambala School HBMS

Job No: 58081 File Name: R02 App B - Photo Log

Photo 19: Overview of Music Building

Photo 20: Music Building, asbestos containing fibre cement sheeting to the internal lining of the fire hose reel cupboard

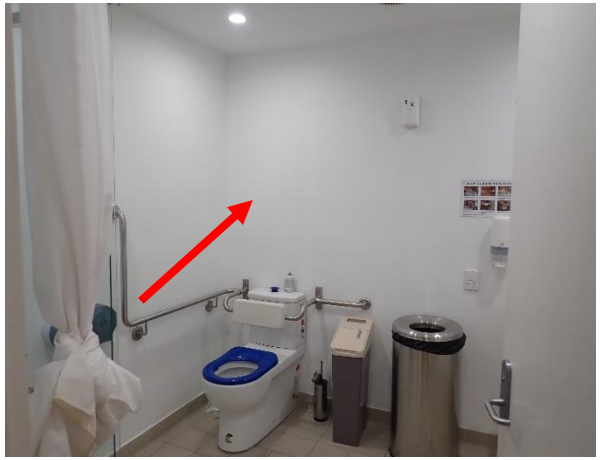


Photo 21: Music Building, asbestos containing fibre cement sheeting to the staff room toilet walls

Photo 22: Music Building, non-asbestos containing cream vinyl floor tiles to the staff kitchen

Photo 23: Music Building, assumed SMF ceiling tiles throughout the eastern portion main hallway

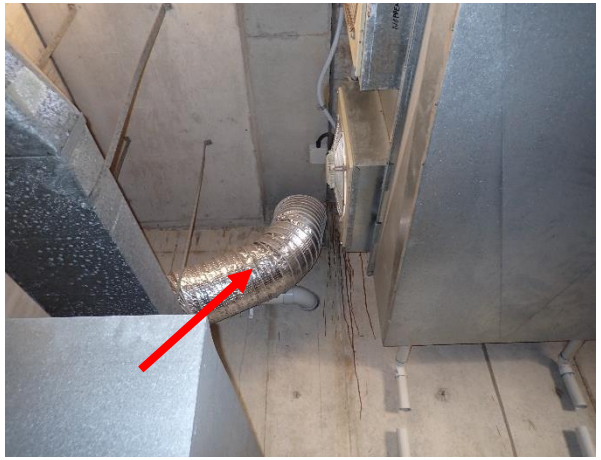


Photo 24: Music Building, assumed SMF insulation to air conditioning plant and ducting

Source:

Rev	Description	Drn.	Date
1	Revision 1	SL	07/04/2020
0	Original Issue -	SL	25/02/2020

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Appendix B: Photographs

Client: CTPG

Project: Kambala School HBMS

Job No: 58081 File Name: R02 App B - Photo Log

Photo 25: Overview of Arts Building

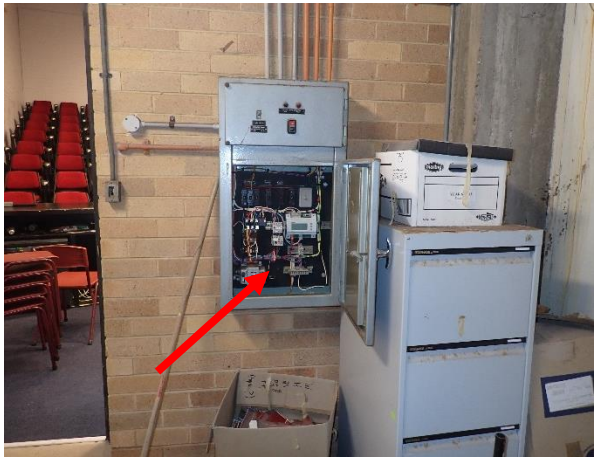

Photo 26: Arts Building, assumed asbestos containing electrical mounting board in lecture theatre plant room

Photo 27: Arts Building, assumed asbestos containing mastic to air conditioning ducting in lecture theatre plant room

Photo 28: Arts Building, assumed asbestos containing mastic to external windows

Photo 29: Arts Building, assumed SMF insulation lagging to pipework in lecture theatre plant room

Photo 30: Arts Building, assumed SMF insulation to the roof sarking throughout

Source:

Rev	Description	Drn.	Date
1	Revision 1	SL	07/04/2020
0	Original Issue -	SL	25/02/2020

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Appendix B: Photographs

Client: CTPG

Project: Kambala School HBMS

Job No: 58081 File Name: R02 App B - Photo Log

Photo 31: Overview of the Tivoli Building (southeast portion)

Photo 32: Tivoli Building, non-asbestos containing fibre cement roof shingles to the eastern covered walkway

Photo 33: Tivoli Building, non-asbestos containing fibre cement sheeting to the soffits of the canteen courtyard

Photo 34: Tivoli Building, lead based cream paint to the external timber windows

Photo 35: Tivoli Building, assumed lead based external paint systems

Photo 36: Tivoli Building, assumed lead based internal paint systems

Source:

Rev	Description	Drn.	Date
1	Revision 1	SL	07/04/2020
0	Original Issue -	SL	25/02/2020

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Appendix B: Photographs

Client: CTPG

Project: Kambala School HBMS

Job No: 58081 File Name: R02 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
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

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

Attention:	Stuart Lumsden
Report	701456-AID
Project Name	KAMBALA
Project ID	58081
Received Date	Feb 11, 2020
Date Reported	Feb 17, 2020

Methodology:

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

Project Name KAMBALA
Project ID 58081
Date Sampled Feb 11, 2020
Report 701456-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
A-01	20-Fe13754	Feb 11, 2020	Approximate Sample 2g / 30x20x3mm Sample consisted of: Grey layer fibre cement material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
A-02	20-Fe13755	Feb 11, 2020	Approximate Sample 10g / 60x40x8mm Sample consisted of: Grey layer fibre cement material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
A-03	20-Fe13756	Feb 11, 2020	Approximate Sample 4g / 50x30x4mm Sample consisted of: Grey layer fibre cement material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
A-04	20-Fe13757	Feb 11, 2020	Approximate Sample <1g / 20x14x2mm Sample consisted of: Red rubberized material	No asbestos detected. No trace asbestos detected.
A-05	20-Fe13758	Feb 11, 2020	Approximate Sample 3g / 50x15x5mm Sample consisted of: Grye fibre cement material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
AD-01	20-Fe13759	Feb 11, 2020	Approximate Sample <1g / 20x8x1mm Sample consisted of: Dust particles, sand, plaster, cement, glass, brick and debris	No asbestos detected. Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.
AD-02	20-Fe13760	Feb 11, 2020	Approximate Sample 3g / 100X20X2mm Sample consisted of: Dust particles, sand, plaster, cement, brick and debris	No asbestos detected. 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 and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Feb 11, 2020	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Feb 11, 2020	Indefinite

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

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

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

New Zealand

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

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

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 701456
Phone: 02 8245 0300
Fax:

Received: Feb 11, 2020 5:20 PM
Due: Feb 18, 2020
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 Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	A-01	Feb 11, 2020		Building Materials	S20-Fe13754		X		
2	A-02	Feb 11, 2020		Building Materials	S20-Fe13755		X		
3	A-03	Feb 11, 2020		Building Materials	S20-Fe13756		X		
4	A-04	Feb 11, 2020		Building Materials	S20-Fe13757		X		
5	A-05	Feb 11, 2020		Building Materials	S20-Fe13758		X		
6	AD-01	Feb 11, 2020		Dust	S20-Fe13759	X			
7	AD-02	Feb 11, 2020		Dust	S20-Fe13760	X			

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

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

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

New Zealand

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

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

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 701456
Phone: 02 8245 0300
Fax:

Received: Feb 11, 2020 5:20 PM
Due: Feb 18, 2020
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 Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
8	LD-01	Feb 11, 2020		Dust	S20-Fe13761			X	
9	LD-02	Feb 11, 2020		Dust	S20-Fe13762			X	
10	LD-03	Feb 11, 2020		Dust	S20-Fe13763			X	
11	LP-01	Feb 11, 2020		Paint	S20-Fe13764				X
12	LP-02	Feb 11, 2020		Paint	S20-Fe13765				X
13	LP-03	Feb 11, 2020		Paint	S20-Fe13766				X
14	LP-04	Feb 11, 2020		Paint	S20-Fe13767				X
15	LP-05	Feb 11, 2020		Paint	S20-Fe13768				X
Test Counts						2	5	3	5

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

Units

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

Terms

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

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

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
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Stuart Lumsden**

Report **701456-S**
Project name KAMBALA
Project ID 58081
Received Date Feb 11, 2020

Client Sample ID			**LD-01**	**LD-02**	**LD-03**	**LP-01**
Sample Matrix			**Dust**	**Dust**	**Dust**	**Paint**
Eurofins Sample No.			**S20-Fe13761**	**S20-Fe13762**	**S20-Fe13763**	**S20-Fe13764**
Date Sampled			**Feb 11, 2020**	**Feb 11, 2020**	**Feb 11, 2020**	**Feb 11, 2020**
Test/Reference	LOR	Unit				
Lead (% w/w)	0.01	%	-	-	-	< 0.01
Heavy Metals						
Lead	5	mg/kg	25	330	38	-

Client Sample ID			**LP-02**	**LP-03**	**LP-04**	**LP-05**
Sample Matrix			**Paint**	**Paint**	**Paint**	**Paint**
Eurofins Sample No.			**S20-Fe13765**	**S20-Fe13766**	**S20-Fe13767**	**S20-Fe13768**
Date Sampled			**Feb 11, 2020**	**Feb 11, 2020**	**Feb 11, 2020**	**Feb 11, 2020**
Test/Reference	LOR	Unit				
Lead (% w/w)	0.01	%	0.02	< 0.01	< 0.01	3.0

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Lead (% w/w)	Sydney	Feb 12, 2020	6 Month
- Method: E022.5 - ACID EXTRACTABLE METALS IN PAINT IN LIQUID AND POWDERED FORM BY ICP-MS ANALYSIS			
Heavy Metals	Sydney	Feb 12, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

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

New Zealand

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

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

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 701456
Phone: 02 8245 0300
Fax:

Received: Feb 11, 2020 5:20 PM
Due: Feb 18, 2020
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 Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	A-01	Feb 11, 2020		Building Materials	S20-Fe13754		X		
2	A-02	Feb 11, 2020		Building Materials	S20-Fe13755		X		
3	A-03	Feb 11, 2020		Building Materials	S20-Fe13756		X		
4	A-04	Feb 11, 2020		Building Materials	S20-Fe13757		X		
5	A-05	Feb 11, 2020		Building Materials	S20-Fe13758		X		
6	AD-01	Feb 11, 2020		Dust	S20-Fe13759	X			
7	AD-02	Feb 11, 2020		Dust	S20-Fe13760	X			

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

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
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2/91 Leach Highway
Kewdale WA 6105
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NATA # 1261
Site # 23736

New Zealand

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

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
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Address: Level 1, 50 Margaret St
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Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 701456
Phone: 02 8245 0300
Fax:

Received: Feb 11, 2020 5:20 PM
Due: Feb 18, 2020
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 Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
8	LD-01	Feb 11, 2020		Dust	S20-Fe13761			X	
9	LD-02	Feb 11, 2020		Dust	S20-Fe13762			X	
10	LD-03	Feb 11, 2020		Dust	S20-Fe13763			X	
11	LP-01	Feb 11, 2020		Paint	S20-Fe13764				X
12	LP-02	Feb 11, 2020		Paint	S20-Fe13765				X
13	LP-03	Feb 11, 2020		Paint	S20-Fe13766				X
14	LP-04	Feb 11, 2020		Paint	S20-Fe13767				X
15	LP-05	Feb 11, 2020		Paint	S20-Fe13768				X
Test Counts						2	5	3	5

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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

Units

mg/kg: milligrams per kilogram

mg/L: milligrams per litre

ug/L: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100mL: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

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

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

Quality Control Results

Test	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	
LCS - % Recovery									
Heavy Metals									
Lead			%	108			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	S20-Fe15894	NCP	%	99			70-130	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	S20-Fe02386	NCP	mg/kg	36	41	14	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-Metal (NSW)
Nibha Vaidya	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

Attention:	Stuart Lumsden
Report	710475-AID
Project Name	KAMBALA
Project ID	58081
Received Date	Mar 27, 2020
Date Reported	Apr 03, 2020

Methodology:

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

Project Name KAMBALA
Project ID 58081
Date Sampled Mar 27, 2020
Report 710475-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
A_06	20-Ma42803	Mar 27, 2020	Approximate Sample 2g / 15x10x2mm Sample consisted of: Brown brittle vinyl tile	No asbestos detected. Organic fibre detected. No trace asbestos detected.
A_07	20-Ma42804	Mar 27, 2020	Approximate Sample 3g / 40x30x5mm Sample consisted of: Brown fibrous plaster cement	Chrysotile asbestos detected. Organic fibre detected.
A_08	20-Ma42805	Mar 27, 2020	Approximate Sample 1g / 15x10x2mm Sample consisted of: Semi brittle vinyl tile and yellow glu	No asbestos detected. No trace asbestos detected.
A_09	20-Ma42806	Mar 27, 2020	Approximate Sample 2g / 20x10x2mm Sample consisted of: Light brown flexible vinyl tile and yellow glu	No asbestos detected. No trace asbestos detected.
A_10	20-Ma42807	Mar 27, 2020	Approximate Sample 3g / 20x10x5mm Sample consisted of: Grey fibrous plaster cement	No asbestos detected. Organic fibre detected. No trace asbestos detected.
A_11	20-Ma42808	Mar 27, 2020	Approximate Sample 1g / 20x15x2mm Sample consisted of: Brown fibrous plaster cement material	No asbestos detected. Organic fibre detected. No trace asbestos detected.
A_12	20-Ma42809	Mar 27, 2020	Approximate Sample 2g / 20x20x2mm Sample consisted of: Grey flexible vinyl sheet and yellow glu	No asbestos detected. No trace asbestos detected.
AD_03	20-Ma42810	Mar 27, 2020	Approximate Sample 1g / 30x20x2mm Sample consisted of: Brown dust particles, paint flakes and plaster like material in powder form	No asbestos detected at the reporting limit of 0.01% w/w. Synthetic mineral fibre detected. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
AD_04	20-Ma42811	Mar 27, 2020	Approximate Sample 3g / 30x25x2mm Sample consisted of: Brown dust, fragments of plaster, cement material, brick, soft fibrous material, corroded metal, glass, sand and organic 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 and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Mar 27, 2020	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Mar 27, 2020	Indefinite

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

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

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

New Zealand

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

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

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

Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 710475
Phone: 02 8245 0300
Fax:

Received: Mar 27, 2020 1:36 PM
Due: Apr 3, 2020
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 Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	A_06	Mar 27, 2020		Building Materials	S20-Ma42803		X		
2	A_07	Mar 27, 2020		Building Materials	S20-Ma42804		X		
3	A_08	Mar 27, 2020		Building Materials	S20-Ma42805		X		
4	A_09	Mar 27, 2020		Building Materials	S20-Ma42806		X		
5	A_10	Mar 27, 2020		Building Materials	S20-Ma42807		X		
6	A_11	Mar 27, 2020		Building Materials	S20-Ma42808		X		

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Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
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NATA # 1261
Site # 23736

New Zealand

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

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Contact Name: Stuart Lumsden

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Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
7	A_12	Mar 27, 2020		Building Materials	S20-Ma42809		X		
8	AD_03	Mar 27, 2020		Dust	S20-Ma42810	X			
9	AD_04	Mar 27, 2020		Dust	S20-Ma42811	X			
10	LD_04	Mar 27, 2020		Dust	S20-Ma42812			X	
11	LD_05	Mar 27, 2020		Dust	S20-Ma42813			X	
12	LP_06	Mar 27, 2020		Paint	S20-Ma42815				X
13	LP_07	Mar 27, 2020		Paint	S20-Ma42816				X
14	LP_08	Mar 27, 2020		Paint	S20-Ma42817				X
15	LP_09	Mar 27, 2020		Paint	S20-Ma42818				X
Test Counts						2	7	2	4

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

Units

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

Terms

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

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

Authorised by:

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
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **Stuart Lumsden**

Report **710475-S**
Project name KAMBALA
Project ID 58081
Received Date Mar 27, 2020

Client Sample ID			**LD_04**	**LD_05**	**LP_06**	**LP_07**
Sample Matrix			**Dust**	**Dust**	**Paint**	**Paint**
Eurofins Sample No.			**S20-Ma42812**	**S20-Ma42813**	**S20-Ma42815**	**S20-Ma42816**
Date Sampled			**Mar 27, 2020**	**Mar 27, 2020**	**Mar 27, 2020**	**Mar 27, 2020**
Test/Reference	LOR	Unit				
Lead (% w/w)	0.01	%	-	-	0.07	< 0.01
Heavy Metals						
Lead	5	mg/kg	250	200	-	-

Client Sample ID			**LP_08**	**LP_09**
Sample Matrix			**Paint**	**Paint**
Eurofins Sample No.			**S20-Ma42817**	**S20-Ma42818**
Date Sampled			**Mar 27, 2020**	**Mar 27, 2020**
Test/Reference	LOR	Unit		
Lead (% w/w)	0.01	%	0.52	0.06

Sample History

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

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

Description	Testing Site	Extracted	Holding Time
Lead (% w/w)	Sydney	Apr 03, 2020	6 Month
- Method: E022.5 - ACID EXTRACTABLE METALS IN PAINT IN LIQUID AND POWDERED FORM BY ICP-MS ANALYSIS			
Heavy Metals	Sydney	Apr 03, 2020	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			

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

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
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16 Mars Road
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Site # 23736

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

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Sydney
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Project Name: KAMBALA
Project ID: 58081

Order No.:
Report #: 710475
Phone: 02 8245 0300
Fax:

Received: Mar 27, 2020 1:36 PM
Due: Apr 3, 2020
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 Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	A_06	Mar 27, 2020		Building Materials	S20-Ma42803		X		
2	A_07	Mar 27, 2020		Building Materials	S20-Ma42804		X		
3	A_08	Mar 27, 2020		Building Materials	S20-Ma42805		X		
4	A_09	Mar 27, 2020		Building Materials	S20-Ma42806		X		
5	A_10	Mar 27, 2020		Building Materials	S20-Ma42807		X		
6	A_11	Mar 27, 2020		Building Materials	S20-Ma42808		X		

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Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
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Sydney
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16 Mars Road
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Auckland
35 O'Rorke Road
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Phone : +64 9 526 45 51
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Received: Mar 27, 2020 1:36 PM
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Sample Detail						Asbestos - AS4964	Asbestos Absence /Presence	Lead	Lead (% w/w)
Melbourne Laboratory - NATA Site # 1254 & 14271									
Sydney Laboratory - NATA Site # 18217						X	X	X	X
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
7	A_12	Mar 27, 2020		Building Materials	S20-Ma42809		X		
8	AD_03	Mar 27, 2020		Dust	S20-Ma42810	X			
9	AD_04	Mar 27, 2020		Dust	S20-Ma42811	X			
10	LD_04	Mar 27, 2020		Dust	S20-Ma42812			X	
11	LD_05	Mar 27, 2020		Dust	S20-Ma42813			X	
12	LP_06	Mar 27, 2020		Paint	S20-Ma42815				X
13	LP_07	Mar 27, 2020		Paint	S20-Ma42816				X
14	LP_08	Mar 27, 2020		Paint	S20-Ma42817				X
15	LP_09	Mar 27, 2020		Paint	S20-Ma42818				X
Test Counts						2	7	2	4

Internal Quality Control Review and Glossary

General

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

Holding Times

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

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

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

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

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

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

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
ug/L: micrograms per litre
ppm: Parts per million
ppb: Parts per billion
%: Percentage
org/100mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

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

QC - Acceptance Criteria

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

Results <10 times the LOR : No Limit

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

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

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

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

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

QC Data General Comments

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

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	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Authorised By

Ursula Long	Analytical Services Manager
Gabriele Cordero	Senior Analyst-Metal (NSW)
Nibha Vaidya	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.

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