Asbestos Register

Blue Mountains City Council maintains asbestos registers ("registers") and asbestos management plans ("plans") relating to each of the buildings owned or occupied by the Council. The registers and plans record information about the existence and location of any known or presumed asbestos containing materials ("ACM") within those buildings.

The Council's governing body has adopted the Council's corporate [/asbestos-registers]Asbestos Policy, which is available on our website.

The registers and plans are in two forms. First, the Council maintains a corporate asbestos register and a corporate asbestos management plan. Second, the Council has prepared individual registers and individual plans for each building that contains or may contain ACM. Hardcopies of those individual registers and plans are held in the building concerned.

Whenever work is carried out on a Council building the hardcopy register and the hardcopy plan are each amended by hand, as required. This action ensures that Council employees or contractors who work from time to time within that building have access to accurate information about the ACM that it contains or may contain.

The electronic versions of each of the corporate plans and registers, and of the plans and registers for individual buildings, are periodically updated. However, the key documents are the hardcopy registers and the hardcopy plans for each building which must be inspected before any work is carried out on that building.

NOTES:

(1) The Council's electronic registers and plans are valid as dated, and ARE NOT to be relied upon as definitive records and ARE NOT to be used for reference purposes for any construction, demolition, maintenance or any other onsite works. IN ALL CASES, the onsite hardcopy building specific asbestos register and building specific asbestos management plan MUST BE CONSULTED prior to the commencement of physical works on the building concerned. While the electronic versions of the Council's registers and plans provide guidance concerning the presence or possible presence of ACM it is the onsite hardcopy registers and plans which will remain up to date.

(2) The Council's electronic registers and plans relate to Council owned or managed buildings. The electronic registers and plans do not relate to structures (such as picnic shelters, bus shelters and other freestanding structures). Before any work is carried out on such structures the Council's Hazardous Materials Team ("HMT") MUST BE CONSULTED. The HMT may be contacted at **council@bmcc.nsw.gov.au**. The HMT will provide information concerning any ACM that may be present in the structure concerned.

Further information: Further information on safe asbestos management may be obtained by contacting Councils Hazardous Materials Management Team at **council@bmcc.nsw.gov.au**.

global environmental solutions

HAZARDOUS BUILDING MATERIALS SURVEY REPORT

Katoomba Solitary Restaurant

90 Cliff Drive, Katoomba NSW 2780

Report Number 610.17816.00000.0240-R01-ASR

19 March 2018

Blue Mountains City Council, 2780

Version: v2

HAZARDOUS BUILDING MATERIALS SURVEY REPORT

Katoomba Solitary Restaurant

90 Cliff Drive, Katoomba NSW 2780

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DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
610.17816.00000.0240-R01-v2	19 March 2017	Narelle Carnes, Matt Hemingway	Neil Kumar	Neil Kumar
610.17816.00000.0240-R01-v1	8 March 2017	Narelle Carnes, Matt Hemingway	Neil Kumar	Neil Kumar

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EXECUTIVE SUMMARY

SLR Consulting Australia Pty Ltd (SLR) was engaged by Russell Brecknell of Blue Mountains City Council to undertake an inspection of Katoomba Solitary Restaurant, 90 Cliff Drive, Katoomba NSW 2780. The survey was conducted by Narelle Carnes from SLR on 17 January 2018 and the 24 January 2018.

The following hazardous building materials were identified.

Asbestos

- Ground Floor - Reception - Upper walls, Fibrous Cement
- Ground Floor - Reception - Ceiling, Fibrous Cement
- Ground Floor - Restaurant - Upper walls, Fibrous Cement
- Ground Floor - Kitchen behind vinyl sheeting - Walls, Assumed Fibrous Cement
- Ground Floor - Kitchen - ceiling to doorway into restaurant area -Ceiling, Fibrous Cement
- Ground Floor - Kitchen - Ceiling, Fibrous Cement
- Ground Floor - Restaurant area enclosed porch - Northern and western upper walls , Fibrous Cement
- Ground Floor - Restaurant area enclosed porch - Ceiling, Fibrous Cement
- Ground Floor - Restaurant entrance area -Upper walls, Fibrous Cement
- Ground Floor - Restaurant entrance area -Ceiling, Fibrous Cement
- Ground Floor - Room with Cool room- northern section ceiling-directly above entrance door ceiling, Fibrous Cement
- Ground Floor - Drinks room - Upper walls north and east, Fibrous Cement
- Ground Floor - Drinks room – Ceiling throughout, Fibrous Cement
- Ground Floor - Ceiling cavity - Hot water system old style - Assumed internal insulation material
- External - North side - Wall sheet west side of back entrance, around electrical box - Wall sheeting, Fibrous Cement
- External - North side - Electrical backing board - Electrical component old ceramic fuse, Friction Material (insulation)
- External - South West Corner upper ceiling sheeting - Infill, Fibrous Cement
- External - South West Corner upper sheeting - Infill, Fibrous Cement
- Internal – Ceiling cavity south west corner and above bathroom and hallway, asbestos in dust.

Lead in Dust

- Ceiling cavity, south west corner
- Suspected lead in dust – Ceiling cavity, north section above bathrooms and hallway

Synthetic Mineral Fibre

- Insulation batts, ceiling cavity

Other

- No Lead in paint found and no PCBs observed

All hazardous building materials identified are in good or fair condition and mostly sealed. The majority of the asbestos situations pose a low risk to health while they remain in their current state or the areas remain sealed off to authorised personnel only and are left undisturbed.

The recommendations arising out of this Management survey are:

1. Friable asbestos in the form of assumed asbestos insulation to the hot water system and old ceramic fuse in the switchboard was identified during the survey. The assumed materials are currently encapsulated. Upon the next service these items should have further testing to determine if they contain asbestos, and replaced with non-asbestos items. Removal must be carried out by a contractor licensed to undertake such works (A Class Asbestos Removalist).
2. Elevated lead dust levels and asbestos in dust were identified in sections of the ceiling cavity that have limited accessibility (approximate height of 90mm). There were also two sections of the ceiling cavity that were inaccessible the south west corner directly above the art booth in the dining room, and the back northern ceiling cavity over the bathrooms and hallway, based on the history of the site and previous sampling undertaken in the accessible ceiling cavities, these areas should be assumed to be contaminated with elevated levels of lead and asbestos dust until proven otherwise. Due to the limited access and the ceiling cavity sections being well sealed from the occupied areas below, the contaminated dust should be considered a low risk to occupants of the building. The dust may remain in-situ providing the following controls are implemented;
    - Access is restricted to ceiling space where elevated levels of lead in dust and asbestos in dust are likely to occur and a management plan implemented to control the risk of human exposure.
    - Any persons wishing to access the areas of the ceiling cavity containing elevated levels of dust or asbestos dust are to undertake a suitable and sufficient Risk Assessment prior to doing so, the results of which may include the use of appropriate Personal Protective Equipment (PPE) such as disposable coveralls and respiratory protection.
    - Regular inspections of the ceiling to ensure no damage/cracks.
    - All penetrations/vents into the ceiling cavity must be sealed. This includes the ceiling vents in the bathrooms.
    - Airborne lead and asbestos fibre monitoring is recommended on a six monthly basis to ensure that all controls in place are sufficient.
3. Asbestos containing materials identified on-site that do not pose a significant risk to health may remain in situ and be managed with the aid of an asbestos management plan.
4. As required by Work Health and Safety Regulations 2017 (NSW), a person with management or control of a workplace is obliged to comply with the requirements outlined in the Regulation as follows:

a. All asbestos or ACM at the workplace is identified and maintained in a register of asbestos containing materials;

b. All in situ ACM and Lead is clearly indicated and labelled;

c. Implementation of an Asbestos Management Plan; and

d. Ongoing review of the Asbestos Containing Materials Register and Asbestos Management Plan.

All identified hazardous materials should be removed prior to demolition/refurbishment in accordance with the current Regulation and Australian Standard.

The list above is a summary/overview only and should not be relied on to accurately identify hazardous materials. The locations and details of all items of known hazardous materials at the property are documented in the Asbestos Register in Part 4 of this report.

This report must be read in conjunction with the Letter of Advice issued by SLR on 14 March 2018, report number 610.17816.00000.0240-LOA-v1.0.

In order to comply with the Work Health and Safety Regulations 2011 (NSW), any action taken to control asbestos and ACM in the place of work, or in plant at the place of work, is to be recorded in the Asbestos Control Log attached in **Appendix A**.

Copies of NATA Laboratory Certificates for asbestos identification analysis are provided in Appendix B. Refer to **Appendix C** for Limitations of this survey. Relevant photographs taken during the inspection are provided in **Appendix D**.

1 BACKGROUND AND SCOPE

SLR Consulting Australia Pty Ltd (SLR) was requested by Russell Brecknell of Blue Mountains City Council to undertake a hazardous building materials survey of Katoomba Solitary Restaurant located at 90 Cliff Drive, Katoomba NSW 2780 to ascertain the location, extent, type and condition of hazardous materials. The survey was conducted on 17 January 2018 and 24 January 2018 by Narelle Carnes from SLR.

1.1 Site Description

The site is located on Cliff Drive. A Locality Map is presented in **Figure 1** for the purpose of this report, the front entrance of the building is taken to be located on the eastern side of the site.

The following information is known about the building:

- The building was a single storey building constructed in 1913.
- The building use, at the time of the survey is a Restaurant.
- The building was not occupied during auditing.
- All areas within the Restaurant building were audited at the time of the survey:

Figure 1 Site Location

1.2 Survey Strategy

The purpose of this survey is to locate, as far as reasonably practicable, the presence, type and extent of any suspect hazardous materials in the building(s), to assess their condition, provide a suitable risk assessment/rating and recommended control actions based on the condition of the materials at the time of the survey. As this is not an intrusive, demolition or refurbishment style survey, findings must not be deemed absolute. A demolition/refurbishment style survey is to be conducted prior to such works commencing as described in AS2601 (2001) The Demolition of Structures and outlined in state WHS Code of Practice: Demolition Work (2015):

1.3 Methodology

Asbestos

Asbestos material surveys are undertaken considering a risk management approach, in accordance with best practice, State Legislation and Safe Work Australia NOHSC Guidance. The survey was conducted in a manner which conforms with Work Health and Safety Regulations 2011 (NSW) and WHS Code of Practice How to Safely Remove Asbestos 2011.

Asbestos containing materials presumed or identified through visual and/or analytical characterisation were performed and reported in this report and documented in the Asbestos Containing Materials Register (ACMR).

The assessment was conducted on the basis of the condition, type and location of the materials at the time of inspection. The scope of this investigation did not allow intrusive sampling techniques to be undertaken, and consequently the register may have limitations as a reference document for the purposes of renovation or demolition.

Sample collection was performed in a non-destructive and non-invasive manner by competent persons. Presumptions, based on knowledge and experience, that inaccessible areas may contain asbestos materials may also be made and stated within the register.

The survey consisted of a visual inspection with limited sampling/analysis of materials undertaken by a trained and experienced surveyor. Materials are assumed to contain asbestos where:

- Laboratory analysis has confirmed the presence of asbestos in a visually similar material; or
- Materials visually appear to be asbestos containing but no sample was collected, for example due to access restraints.

Samples are typically collected using a hand tool or core borer. Hand drills and other tools are used where required. Power tools were not used during the survey.

Small representative samples were collected from materials presumed to contain asbestos (where not previously identified). Samples collected are representative of the material sampled, individually identified, transported, analysed and reported in accordance with Guidelines, relevant Statutory Regulations, Codes of Practice and SLR in-house Work Instructions and procedures. Samples were submitted to a NATA certified laboratory for confirmation analysis by stereo microscope and polarised light microscopy (PLM) with dispersion staining techniques.

Notably, with some asbestos containing bulk material it can be very difficult, or impossible, to detect the presence of asbestos using the polarised light microscopy analytical method, even after ashing or disintegration of samples. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or attributed to the fact that, very fine fibres have been distributed individually throughout the materials. Some materials, such as vinyl tiles, may require further analysis via X-ray diffraction or Scanning Electron Microscopy.

The ACMR consists of relevant information gathered on site, assessment of risk and recommendations for ongoing management of in situ asbestos materials. Reference to photographs, where available, is made in the register along with sample identification and analysis results, where applicable. Sample analysis results from preceding assessments may be referenced in the ACMR (refer to previous survey reports for analytical test results where reference is made to previous sample data).

Lead Paint

Lead paint spot tests are conducted using 5% Sodium Sulphide solution to detect lead in paint. A positive result by a spot test indicates a lead level greater than (>)1%. The results of spot tests are generally only applicable to the layer of paint tested.

Lead Dust

Settled dust was sampled and analysed for lead. Sampling and analysis was conducted in accordance with AS4361.2 Guide to lead paint management Part 2: Residential and Commercial Buildings. Briefly, this involved the collection of settled dust from a known surface area by wet wipe. The collected dust is then analysed in a laboratory by ICP-AES for total lead content. The total lead content and area sampled is then used to calculate a lead in dust loading value in mg/m^2.

PCBs

Capacitors in old fluorescent light fittings are assumed to contain PCBs unless a more detailed inspection and/or laboratory analysis confirms otherwise. A more detailed inspection and/or laboratory analysis would require a qualified electrician to isolate and de-energise the light fittings.

1.4 Exclusions

Certain areas of the building were inaccessible at the time of the inspection. This includes areas/materials that were inaccessible due to being “live electrical” or “moving parts” equipment. The below table lists the areas/materials that were inaccessible.

Table 1 Inaccessible Areas and/or Materials

Location	Explanation
Dining room art booth ceiling cavity	Partitioned off from main ceiling cavity, no manhole access
Bathrooms and hallway ceiling cavity	Partitioned off from main ceiling cavity, no manhole access

Additionally, and unless specifically noted, the survey did not cover:

- Wall/ceiling panelling behind laminations/coverings.
- Concealed floor coverings beneath carpet or superficial floor coverings.
- Fuses within “live” electrical panelling. Fuses of a certain age may contain asbestos containing flashguards.
- Hidden and/or inaccessible locations such as in or under concrete slabs, in or under vinyl/linoleum/carpet, wall cavities, hidden storage areas and the like. If the vinyl or linoleum is tested, this does not necessarily mean that the resin/glue is included in the analysis.
- Lift wells and inaccessible/unidentified shafts, cavities and the like.
- Air conditioning, heating, mechanical, electrical or other equipment.
- General exterior ground surfaces and subsurface areas eg asbestos in fill/soil.

- Materials dumped, hidden, or otherwise placed in locations which one could not reasonably anticipate.
- Materials other than normal building fabric, materials in laboratories or special purpose facilities and building materials that cannot be reasonably and safely assessed without assistance.

Materials other than asbestos, lead and PCBs are generally outside the scope of this investigation as identification can require specialised analysis/inspection techniques.

Settled dust is generally not sampled or commented on. Settled dust may contain hazardous materials, particularly if it is/was once in the vicinity of hazardous materials (such as asbestos containing materials or lead paint). It may also contain hazards originating from outside the building (such as lead from petrol combustion).

2 SURVEY RESULTS

The results of the asbestos survey are presented in a tabular format. **Section 3.1** details all of the ACM identified. **Section 3.2** shows all of the non-asbestos containing materials as determined during laboratory analysis.

To assist with the interpretation of the results the following legend provides detailed meaning of abbreviations and terms that may appear in the tables.

Legend

Internal/ External	Refers to the location of the material in relation to the structure. Eg Eaves would be External of the building; Kitchen would be internal of the building.
Floor	Refers to the floor level on which the material is located.
Specific location	Refers to the precise location of the material within a room eg Room 1 - infill panel below window on southern wall.
Material	Refers to the type of material identified e.g. vinyl tile, fibre cement sheeting, fibrous insulation, etc. Material does not refer to the use or application of the material. This is covered in 'Application'.
Application	Refers to the use or application of the material e.g. floor covering, soffit lining, pipe lagging, etc.
Photograph	Refers to the photograph reference number located in the appendices.
Approximate Extent	Usually refers to the surface area or length of the material expressed as either square metres (m^2) or linear metres (Lin m). The dimension is an estimate only and should not be relied upon as an exact measure.
Results of Analysis	Refers to the type of asbestos identified during laboratory analysis. There are three main commercial asbestos types: chrysotile (CH-white), amosite (A-brown or grey), and crocidolite (C-blue). The term NAD which appears only in the non-asbestos register; means no asbestos was detected during laboratory analysis. Materials shown as 'Similar to……' have not been sampled but appear the same as other materials previously sampled. 'Suspect' refers to those materials not sampled (perhaps for safety reasons) and which are not similar to previously sampled materials. 'Assumed' refers to those materials not sampled (perhaps for safety/access reasons) and which exhibit similar properties to other materials identified/sampled.

<table>
<tr><td>Risk of Disturbance</td><td>Refers to frequency of disturbance
High: The material is located in frequently accessible areas with potential for disturbance
Medium: The material is prone to mechanical disturbance due to routine building activity and/or maintenance
Low: Routine accessibility is unlikely to cause significant deterioration, the material is located in areas with minimal or no disturbance potential or the material is adequately sealed
NA: Not Applicable where Analysis indicates No Asbestos Detected</td></tr>
<tr><td>Overall Condition / Deterioration</td><td>Refers to the physical state or condition of the material.
Good - material shows no, or very minor, sign of damage and/or deterioration
Fair - material shows signs of minor damage and/or deterioration
Poor - material shows sign of significant damaged and/or deterioration or the material is partly or wholly unserviceable for its intended use.
Very Poor - High damage/visible debris.</td></tr>
<tr><td>Friability of Asbestos</td><td>Friable or Non Friable</td></tr>
<tr><td>Sealed / Surface Treatments</td><td>Refers to whether or not the material is encapsulated with a sealant such as paint, wall paper, etc. concealing its exposed surfaces.
Sealed - Non-friable composite asbestos/encapsulated cement.
Sealed- Enclosed sprays/lagging/board.
Partially Sealed - Bare AIB or encapsulated lagging/spray.
Unsealed - Unsealed lagging/spray/loose asbestos.</td></tr>
<tr><td>Outcome of Risk or exposure risk assessment</td><td>The Material Assessment score is calculated by adding the parameters above. The potential for releasing fibres is detailed below.
<table>
<tr><th>Material Assessment Score</th><th>Fibre Release Potential</th></tr>
<tr><td>10 or higher</td><td>High</td></tr>
<tr><td>7 – 9</td><td>Medium</td></tr>
<tr><td>5 – 6</td><td>Low</td></tr>
<tr><td>4 or lower</td><td>Very Low</td></tr>
</table>
The material assessment looks at the type and condition of the ACM and the ease with which it will release fibres if disturbed. It does not take into account occupancy or activities within the area, including periodic maintenance works.
Removal Recommended: Engage appropriately qualified persons (i.e. licensed asbestos removal contractor) to remove and dispose of the ACM under controlled conditions in accordance with relevant state specific Removal Code of Practice.
Repair / encapsulation Recommended: Repair or encapsulate (e.g. paint) or enclose the ACM to minimise deterioration until such time that the ACM is removed
Suitable for Continual Use: ACM may remain in situ provided appropriate management controls are adopted, the material is appropriately labelled and re-assessed every 5 years or earlier, where a risk assessment indicates the need for reassessment or the ACM has been disturbed or removed.
NA: Not Applicable where Analysis indicates No Asbestos Detected</td></tr>
<tr><td>Recommended control Actions</td><td>Refers to the recommended controls / actions required to ensure the identified asbestos materials are managed as per the legislative requirements.</td></tr>
<tr><td>Labels Affixed</td><td>Yes/No or NA - Not Applicable where Analysis indicates No Asbestos Detected</td></tr>
<tr><td>Additional Comments</td><td>Refers to any other relevant comments that may assist with the future management of the material.</td></tr>
<tr><td>Next Inspection Date</td><td>Determined by the Risk Assessment or NA - Not Applicable where Analysis indicates No Asbestos Detected.</td></tr>
</table>

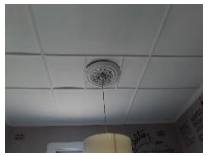
3 ASBESTOS CONTAINING MATERIALS REGISTER

3.1 Asbestos Register

The following table is a register of all identified ACM on site, confirmed through analysis or assumed materials deemed to be homogenous or consistent in appearance and manufacture to similar samples collected/analysed. This Summary of ACM should be read in conjunction with all sections of this report.

Sample No./ Visual observation	Photo	Location			Analysis	Risk assessment						Additional information		
		Int / Ext Floor Specific Location	Material Application	Extent	Result	Risk of Disturbance	Overall Condition / deterioration	Friability of Asbestos	Sealed/ Surface Treatments	Outcome of Risk or Exposure Risk Assessment	Recommended Control Actions	Labels Affixed	Additional Comments	Next Inspection due date
Assumed 1611		External North side - Electrical backing board - fuse	Electrical component old ceramic fuse, Friction Material	<1m²	Assumed Asbestos	Low	Fair	Friable	Encapsulat-ed	Low	Remove during next service	No		17/01/2023
1612		Ceiling cavity - Hot water system	Old style hot water system internal insulation material, Insulation	Unknown									CC 29/10/2019 19/252736 JMBEC	
02 1613		External S/W Corner upper sheeting	Infill, Fibrous Cement	1m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No		17/01/2023
Similar to 02 1614		External S/W Corner upper ceiling sheeting	Infill, Fibrous Cement	1m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No		17/01/2023

Sample No./ Visual observation	Photo	Location			Analysis	Risk assessment						Additional information		
		Int / Ext Floor Specific Location	Material Application	Extent	Result	Risk of Disturbance	Overall Condition / deterioration	Friability of Asbestos	Sealed/ Surface Treatments	Outcome of Risk or Exposure Risk Assessment	Recommended Control Actions	Labels Affixed	Additional Comments	Next Inspection due date
03 1615		External Back half restaurant - North, east and west soffits - also run on the western soffit	Soffit, Fibrous Cement	12m²	Chrysotile	Low	Fair	Non Friable	Sealed	Very Low	Reinstate any loose panels	No		24/01/2023
04 1616		External North side - wall sheet west side of back entrance - around electrical box	Wall sheeting, Fibrous Cement	3m²	Chrysotile	Medium	Good	Non Friable	Sealed	Very Low	Manage	No		17/01/2023
1617		Ground Floor - Room with Cool room- northern section ceiling- directly above entrance door	~~Ceiling,~~ ~~Fibrous Cement~~										CC 9/8/2018 SLR 18/217329	
11 1618		Ground Floor Drinks room - upper walls	Upper walls north and east, Fibrous Cement	18m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No		17/01/2023
12 1619		Ground Floor Drinks room - ceiling	Ceiling throughout, Fibrous Cement	6m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No		17/01/2023

Sample No./ Visual observation	Photo	Location			Analysis	Risk assessment						Additional information		
		Int / Ext Floor Specific Location	Material Application	Extent	Result	Risk of Disturbance	Overall Condition / deterioration	Friability of Asbestos	Sealed/ Surface Treatments	Outcome of Risk or Exposure Risk Assessment	Recommended Control Actions	Labels Affixed	Additional Comments	Next Inspection due date
Similar to 11 1620		Ground Floor Restaurant entrance area - Upper walls	Upper walls, Fibrous Cement	18m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No	Note SLR consultant lifted all picture frames and sprayed screw holes with a clear PVA sealant	24/01/2023
Similar to 11 1621		Ground Floor Reception	Upper walls, Fibrous Cement	12m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No	Note SLR consultant lifted all picture frames and sprayed screw holes with a clear PVA sealant	24/01/2023
Similar to 11 1622		Ground Floor Restaurant	Upper walls, Fibrous Cement	16m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No	Note SLR consultant lifted all picture frames and sprayed screw holes with a clear PVA sealant	24/01/2023
Similar to 11 1624		Ground Floor Kitchen	Walls, Fibrous Cement	16m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No		24/01/2023
Similar to 12 1626		Ground Floor Restaurant entrance area – ceiling	Ceiling, Fibrous Cement	9m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No		24/01/2023

Sample No./ Visual observation	Photo	Location			Analysis	Risk assessment						Additional information		
		Int / Ext Floor Specific Location	Material Application	Extent	Result	Risk of Disturbance	Overall Condition / deterioration	Friability of Asbestos	Sealed/ Surface Treatments	Outcome of Risk or Exposure Risk Assessment	Recommended Control Actions	Labels Affixed	Additional Comments	Next Inspection due date
1628		Ground Floor Reception	Ceiling, Fibrous Cement										CC 28/02/2018 SLR 18/73838	
22 1631		Ground Floor Kitchen - ceiling to doorway into restaurant area	Ceiling, Fibrous Cement	<1m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No		24/01/2023
23 1632		Ground Floor Restaurant area enclosed porch	Northern and western upper walls , Fibrous Cement	21m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No	The lower walls are timber and some of the upper panels are also timber. Note SLR consultant lifted all picture frames and sprayed screw holes with a clear PVA sealant	24/01/2023
24 1643		Ground Floor Restaurant area enclosed porch	Ceiling, Fibrous Cement	16m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No	The main area ceiling is plaster. Note SLR consultant lifted all picture frames and sprayed screw holes with a clear PVA sealant	24/01/2023

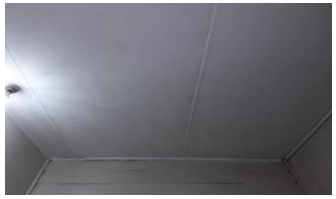
Sample No./ Visual observation	Photo	Location			Analysis	Risk assessment						Additional information		
		Int / Ext Floor Specific Location	Material Application	Extent	Result	Risk of Disturbance	Overall Condition / deterioration	Friability of Asbestos	Sealed/ Surface Treatments	Outcome of Risk or Exposure Risk Assessment	Recommended Control Actions	Labels Affixed	Additional Comments	Next Inspection due date
25 1645		Ground Floor Kitchen	Ceiling, Fibrous Cement	27m²	Chrysotile	Low	Good	Non Friable	Sealed	Very Low	Manage	No		24/01/2023

Notes:

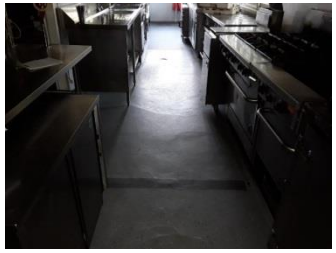
- The Asbestos Containing Materials Register should be read in conjunction with all sections of this report.
- Certificate of analysis/test results are detailed in **Appendix B** of this report.
- Asbestos containing dust present is in ceiling cavity. Refer to section 4.0 for further details.

3.2 Non Asbestos Containing Materials

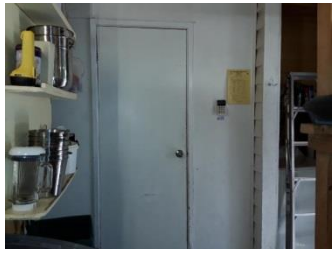
The following table is a register of all identified non-asbestos containing materials on site, confirmed through analysis.

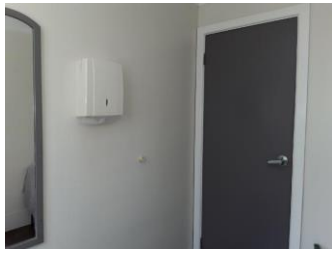
Sample No./ Visual Observation	Photo	Location			Analysis
		Int / Ext Floor Specific Location	Material Application	Extent	Result
Similar to 13 1648		Katoomba Solitary Restaurant Ground Floor Area outside kitchen - ceiling	Ceiling, Fibrous Cement	24m²	NAD
16 1649		Katoomba Solitary Restaurant Ground Floor - Staff only area adjacent male toilets	Walls throughout , Fibrous Cement	22m²	NAD
17 1651		Katoomba Solitary Restaurant Ground Floor - Staff only area adjacent kitchen	Walls north east and west, Fibrous Cement	22m²	NAD

Sample No./ Visual Observation	Photo	Location			Analysis
		Int / Ext Floor Specific Location	Material Application	Extent	Result
18 1652		Katoomba Solitary Restaurant Ground Floor - Hall leading to toilet areas	Floor covering vinyl sheet, Vinyl Products	5m²	NAD
Similar to 18 1653		Katoomba Solitary Restaurant Ground Floor - Male and female toilets	Floor covering vinyl sheet, Vinyl Products	10m²	NAD
19 1654		Katoomba Solitary Restaurant Ground Floor - Area before hallway to toilets - eastern wall	Wall lining, Fibrous Cement	3.5m²	NAD

Sample No./ Visual Observation	Photo	Location			Analysis
		Int / Ext Floor Specific Location	Material Application	Extent	Result
20 1655		Katoomba Solitary Restaurant Ground Floor - Kitchen - vinyl sheet floor covering	Vinyl sheet floor covering, Vinyl Products	15m²	NAD
21 1656		Katoomba Solitary Restaurant Ground Floor - Kitchen - vinyl sheet wall lining	Vinyl sheet lining walls, Vinyl Products	20m²	NAD
26 1657		Katoomba Solitary Restaurant Ground Floor - Area outside kitchen - upper west wall	Infill panels, Fibrous Cement	2m²	NAD

Sample No./ Visual Observation	Photo	Location			Analysis
		Int / Ext Floor Specific Location	Material Application	Extent	Result
27 1658		Katoomba Solitary Restaurant External - Western side of restaurant- sheeting hot water system on	Support sheet, Fibrous Cement	<1m²	NAD
01 1659		Restaurant External - Roof upper section	Tiles, Fibrous Cement	80m²	NAD
05 1660		External - Sealant around windows	Sealant around windows, PVC / Reinforced Plastics	Unknown	NAD

Sample No./ Visual Observation	Photo	Location			Analysis
		Int / Ext Floor Specific Location	Material Application	Extent	Result
06 1661		External - North side of building - external wall to Store room / cool room	External wall, Fibrous Cement	18m²	NAD
08 1662		Ground Floor - Room with Cool room- far northern infill in north west corner adjacent entrance door	Infill, Fibrous Cement	<1m²	NAD
09 1663		Ground Floor - Room with Cool room - infill – on western wall - entrance door to kitchen	Infill, Fibrous Cement	1m²	NAD

Sample No./ Visual Observation	Photo	Location			Analysis
		Int / Ext Floor Specific Location	Material Application	Extent	Result
10 1664		Ground Floor - Northern entrance - infill adjacent entrance door	Infill, Fibrous Cement	1m²	NAD
13 1665		Ground Floor - Cool room- Southern ceiling outside door entering into kitchen	Ceiling, Fibrous Cement	8m²	NAD
14 1666		Ground Floor - Toilet	Walls throughout, Fibrous Cement	32m²	NAD

Sample No./ Visual Observation	Photo	Location			Analysis
		Int / Ext Floor Specific Location	Material Application	Extent	Result
15 1667		External - North side - Electrical backing board	Electrical backing board, Insulating Board	<1m²	NAD

Notes:

- The Asbestos Containing Materials Register should be read in conjunction with all sections of this report.
- Certificate of analysis/test results are detailed in **Appendix B** of this report.

3.3 Lead and PCBs

Table 2 Lead Paint Spot Tests Analysis Results

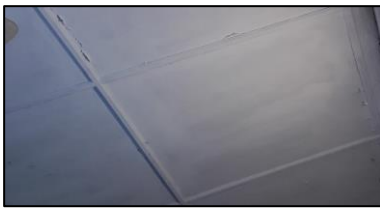
Test Number	Test Location	Test Result	Photo
ST01	External outside trims - Green colour paint to trims The external outer trims were repainted in February 2018 post collection of this sample.	Negative <1%	
ST02	External outside walls - Cream colour paint to Walls The external walls were repainted in February 2018 post collection of this sample.	Negative <1%	
ST03	External outside trims – Light green colour paint to The external outer trims were repainted in February 2018 post collection of this sample.	Negative <1%	No Photgraph Available
ST04	External Northern wall – The external walls were repainted in February 2018 post collection of this sample.	Negative <1%	
ST05	Drinks room - White colour paint to Ceiling	Negative <1%	
ST06	Ground Floor Drinks room – Yellow mustard - colour paint to Walls	Negative <1%	

Table 3 Lead in Dust Analysis Results

Test Number	Test Location	Result mg/m^2	Comments
LD01	**Ceiling cavity – Pre remediation**	**1100**	All accessible areas remediated post results in February and March 2018

Lead Dust samples collected from within occupied areas of the building – Pre remediation			
Test Number	**Test Location**	**Result mg/m^2**	**Comments**
SR-01:	Sample collected from the south facing Verandah adjacent the menu table.	0.10	
SR-02:	Sample collected from the top of the stone fire place mantle in the Dining Room.	0.34	
SR-03:	Sample collected from the west internal wall of the Dining Room; top side of the wall sheet joint cover strip.	0.43	
SR-04:	Sample collected from the light shade located immediately below the ceiling rose in the center of the Dining Room.	0.10	
SR-05:	Sample collected from the top of the wall sheet joint cover strip to the south side wall and within the staff side of the Bar.	1.20	
SR-06:	Sample collected from the top shelf of the stainless steel shelving adjacent the ceiling manhole.	0.10	
SR-07:	Sample collected from the top of the triangle shelf above the door to the kitchen area.	1.30	
SR-08:	Sample collected from the top shelf of the east side timber shelving; currently used to store wine.	0.10	
SR-09:	Sample collected from the top shelf immediately adjacent the north side of the cool room.	1.20	
SR-10:	Sample collected from the topside of the lower window sill/frame in the toilet cubicle.	0.74	
SR-11:	**Sample collected from the top of the urinal cistern**	**6.10**	Area remediated post results in February 2018
SR-12:	Sample collected from the top of the door frame to the entrance door.	0.59	
SR-13:	Sample collected from the window sill above the Kiosk entrance door	1.30	

Lead Dust samples collected from the ceiling void - Post remediation in February –March 2018			
Test Number	**Test Location**	**Result mg/m^2**	**Comments**
L-1:	Ceiling cavity south west end of pitched roof	1.60	
L-2:	Ceiling cavity south east end of pitched roof	0.60	
L-3:	Ceiling cavity adjacent access point	0.40	
L-4:	Ceiling cavity north end of pitched roof	0.40	
L-5:	Ceiling cavity north east corner	<0.10	
L-6:	Ceiling cavity between north east corner and access point	3.20	
L-7:	Ceiling cavity between access point and south east corner	2.30	
L-8:	Floor below ceiling access point	<0.10	
L-9:	Ceiling timber, south corner, near guttering	3.60	
L-10:	Ceiling timber, south east aspect, above doorway to lawn	5.90	
L-11:	Ceiling timber, south west aspect, adjacent to the inaccessible section of the ceiling cavity above the art booth	**13**	Limited access - manage elevated lead in dust in-situ
L-12:	Ceiling timber, south corner, adjacent to the inaccessible section of the ceiling cavity above the art booth	**21**	Limited access - manage elevated lead in dust in-situ
L-13:	Ceiling cavity south west end of pitched roof	1.60	

Lead Dust samples collected from within occupied areas of the building - Post remediation in February–March 2018			
Test Number	**Test Location**	**Result mg/m^2**	**Comments**
6.3-1:	Reception room floor beneath replaced panel	<0.10	
6.3-2:	Dining room floor beneath ceiling feature	<0.10	
6.3-3:	Windowsill, south corner of dining room	<0.10	
6.3-4:	Dining room floor, dining room art booth	0.60	
6.3-5:	Kitchen floor, next to floating bench	0.60	
6.3-6:	Windowsill, west end of kitchen	0.26	

3.4 Identified PCB's

Within the Scope and Limitations of this report, no PCB's were identified.

Notes:

- This Summary of Hazardous Materials should be read in conjunction with all sections of this report.
- Certificate of analysis/test results are detailed in **Appendix B** of this report.
- Negative = no lead paint detected or <1%
- All other similar occurrences of the ACM identified in the summary table above should be assumed to contain asbestos, and treated accordingly, unless sampling and analysis confirms otherwise.
- All other similar occurrences of the lead listed in the above summary table should be assumed to contain corresponding levels of lead.
- All other similar occurrences of lead in paint listed in the above summary table should be assumed to contain corresponding levels of lead.
- Most of the fluorescent light fittings sighted are of a newer style which are unlikely to house capacitors that contain PCBs. Should any fluorescent light fittings of an older style be present they may house capacitors that contain PCBs, and should be assumed to do so unless a more detailed inspection and/or sample analysis confirms otherwise. A more detailed inspection and/or sample analysis requires a qualified electrician to isolate and de-energise the lights.

4 DISCUSSION AND RECOMMENDATIONS

As previously detailed in the Scope **Section 2**, SLR was appointed to complete a survey and assessment of Katoomba Solitary Restaurant, 90 Cliff Drive, Katoomba NSW 2780 with regards to the identification of hazardous materials. The extent of the inspection and samples collected for subsequent analysis was completed in order to confirm, as far as reasonably practicable, the location, condition and risk presented by hazardous materials remaining in-situ (and was based on the level of access available).

Further to the completion of the on-site investigation and collection/analysis of samples, there are detailed site/work-specific requirements and precautions that must be taken in the management, control and removal of ACM. In addition to those listed on the Asbestos Containing Materials Register, the following are some general recommendations and precautions that should be considered. Detailed documents, which may include, Scope of Works, Safe Work Method Statements and Risk Assessments, should be prepared to appropriately address health and safety issues associated with specific work and site conditions.

It is also a requirement as per Regulation 429 an Asbestos Management Plan must be prepared if Asbestos or ACM has been identified or assumed present, or likely to be present from time to time in a workplace.

Additionally, this report must be read in conjunction with the Letter of Advice issued by SLR on 14 March 2018, report number 610.17816.00000.0240-LOA-v1.0.

4.1 Site Specific Recommendations

- Elevated lead dust levels and asbestos in dust were identified in sections of the ceiling cavity that have limited accessibility (approximate height of 90mm) refer to Site Plan located in Appendix E. There were also two sections of the ceiling cavity that were inaccessible, the south west corner (art booth in the dining room), and the back northern ceiling cavity over the bathrooms and hallway, based on the history of the site and previous sampling undertaken in the accessible ceiling cavity areas, these areas should be assumed to be contaminated with elevated levels of lead and asbestos dust until proven otherwise.

  Due to the limited access into the areas and the ceiling cavity sections being well sealed from the occupied areas below, the contaminated dust should be considered a low risk to occupants of the building. The dust may remain in-situ providing the following controls are implemented;

  - Access is restricted to ceiling space where elevated levels of lead in dust and asbestos in dust are likely to occur and a management plan implemented to control the risk of human exposure.
  - Any persons wishing to access the areas of the ceiling cavity containing elevated levels of dust or asbestos dust are to undertake a suitable and sufficient Risk Assessment prior to doing so, the results of which may include the use of appropriate Personal Protective Equipment (PPE) such as disposable coveralls and respiratory protection.
  - Regular inspections of the ceiling to ensure no damage/cracks.
  - All penetrations/vents into the ceiling cavity must be sealed. This includes the ceiling vents in the bathrooms.
  - Airborne lead and asbestos fibre monitoring is recommended on a twelve monthly basis to ensure that all controls in place are sufficient.
- Friable asbestos in the form of assumed asbestos insulation to the hot water system and old ceramic fuse in the switchboard was identified during the survey. The assumed materials are currently encapsulated. Upon next service the items should have further testing to determine if they contain asbestos, and replaced with non-asbestos items. Removal must be by a contractor licensed to undertake such works.

4.2 Asbestos

All non-friable ACM in an in-tact condition may remain in-situ provided they are not drilled, ground or otherwise disturbed. If generated, broken pieces are to be removed as soon as practicable. As part of good ongoing management we recommend regular inspections of ACM left in-situ to check the condition of these materials.

As a precautionary measure, any minor damaged surfaces (such as for example ACM sheeting containing penetrations for picture hooks), exposed/damaged edges of ACM remaining in-situ may be sealed with an appropriate sealant, such as Emerclad paint, to minimise the risk of generating airborne asbestos fibres if/when these materials are disturbed.

Where there is an asbestos roof, ceiling, or walls identified, surfaces directly below the roof and adjacent the ACM surface, from past experience and sample analysis results, the dust and surface may contain asbestos fibres unless proven otherwise by settled dust sampling by an experienced and competent consultant, such as SLR.

4.3 Lead

4.3.1 Lead in Paint

Within the scope and limitations of the investigation undertaken, no paints containing greater than 1% lead were identified during the survey.

Paints of 1% or more lead content are generally considered to be lead containing; however the dry sanding of paints with even 0.25% lead can result in the release of unacceptable levels of lead containing dust.

Procedures and precautions detailed in Australian Standard AS 4361.2-1998 *Guide to lead paint management Part 2: Residential and Commercial Buildings*, *National Standard for the Control of Inorganic Lead at Work* [NOHSC: 1012 (1994)] and the *National Code of Practice for the Control and Safe Use of Inorganic Lead at Work* [NOHSC: 2015 (1994)] should be followed in the treatment and management of paint containing lead.

4.3.2 Lead in Dust

Australian Standard AS 4361.2-1998 *Guide to lead paint management Part 2: Residential and Commercial Buildings* does not offer any general guidance on lead levels in dust but it does have surface dust loading values as acceptance levels after lead paint management activities. The acceptance levels for surface dust are:

- Interior floors 1 mg/m² (as lead)
- Interior window sills 5 mg/m² (as lead)
- Exterior surfaces 8 mg/m² (as lead)

SLR uses the Australian Standard levels above as a guide in assessing lead dust risks. These figures can also be used to assess the risk of exposure from other lead sources.

The acceptance level of lead in dust for exterior surfaces is considered the most appropriate guideline for comparison for lead in ceiling dust.

The lead content in the dust sample collected from within the ceiling cavity during the initial hazardous materials audit on the 17th January 2018 sample LD1 was 1100mg/m^2, which is significantly above the guideline level (8 mg/m^2): SLR conducted additional sampling below the ceiling to determine if the dust had migrated into the occupied areas, 13 dust swabs were collected within the occupied areas of the building, one (1) sample SR11 result 6.10 mg/m^2 was above the AS for Interiors (5 mg/m^2), this sample was taken from the top of the cistern in the male toilets, directly below the ceiling vent. These two areas were targeted during remediated and have since been validated to show lead at acceptable levels.

Following remediation of the lead dust in the ceiling cavity and male toilets in February 2018, eighteen (18) dust samples were collected to validate the remediation. The samples were collected from accessible areas in the ceiling cavity, the kitchen and dining rooms. Two of the samples taken from the ceiling cavity had elevated levels of lead in dust; L11 – 13 mg/m^2 and L12 - 21 mg/m^2 both samples were located in the south west section of the ceiling above the art booth where the ceiling cavity has very limited access due to height of approximately 90mm.

Generally, the inspected ceiling space were well sealed and provide limited opportunity for ceiling dust to enter the interior occupied space of the building and expose occupants.

Appropriate procedures and precautions should be taken during refurbishment/demolition works involving ceiling spaces containing elevated levels of lead in dust. Procedures and precautions should control human exposure to lead in ceiling dust to an acceptable level and contain contamination to prevent spreading to surrounding areas. Depending on the nature and extent of refurbishment/demolition works, procedures and precautions may include:

If any lead contaminated / potentially contaminated dust is encountered on site then access to the material should be appropriately restricted and advice sought from a suitably qualified and experienced consultant, such as SLR.

4.3.3 Metallic Lead

Within the scope and limitations of the investigation undertaken, no metallic lead was identified during the survey.

Metallic lead should not be ground, scraped, sanded, melted or otherwise disturbed to produce lead dust or vapours without the implementation of a suitable and sufficient risk assessment and the use of appropriate procedures and precautions. Procedures and precautions may include the use of appropriate Personal Protective Equipment (PPE) and control measures to ensure personnel are not exposed to lead materials or do not cause contamination of surrounding areas.

Precautions and procedures detailed in the *National Standard for the Control of Inorganic Lead at Work* [NOHSC:1012(1994)] and the *National Code of Practice for the Control and Safe Use of Inorganic Lead at Work* [NOHSC:2015 (1994)] should be followed in the treatment and management of metallic lead.

4.4 PCBs

Within the scope and limitations of the investigation undertaken, no old fluorescent light fittings were identified during the survey.

PCBs are assumed to be present in older fluorescent light fittings unless a more detailed inspection and/or sample analysis indicates otherwise. Sampling or a more detailed inspection would require the presence of a qualified electrician to electrically isolate and de-energise the light fittings.

PCBs are a scheduled waste with strict guidelines regarding transport and handling. PCB work is to be conducted in accordance with the *Environmental Protection & Heritage Council's Polychlorinated Biphenyls Management Plan, Revised Edition April 2003*. This includes:

- Prior to demolition when the power is disconnected, inspect the light fittings;
- Metal PCB containing capacitors are to be removed, placed in plastic lined 200 litre drums and disposed of as PCB Scheduled Waste. Any light fittings that show signs of oil staining from capacitors are to be disposed of as PCB contaminated;
- Protective clothing including eye protection, PCB resistant gloves and overalls are to be worn;
- Contaminated gloves and disposable coveralls are to be disposed of as PCB contaminated waste; and
- Contractors licensed to transport and handle PCBs must be used for transport and disposal. PCB is a scheduled waste with strict guidelines regarding transport and handling.

4.5 SMF

SMF insulation was identified during the survey.

SMF, also known as manmade mineral fibres (MMMF) or manmade vitreous fibres (MMVF), is a collective term used for amorphous vitreous fibres such as glass fibre, rock wool, slag wool and refractory ceramic fibres (RCF). No form of SMF has been classified as being a confirmed human carcinogen, although some forms such as RCF are classified as being 'possibly carcinogenic to humans'; however, prior to recent scientific studies and collection of epidemiological data, the National Occupational Health and Safety Commission (NOHSC) released a National Code of Practice for the Safe Use of Synthetic Mineral fibres [NOHSC: 2006(1990)].In addition, there are current Australian National Exposure Standards for SMF/MMMF.

SLR advises referring and adhering to the above mentioned NOHSC Code of Practice when handling or disturbing any form of SMF or MMMF.

4.6 General Recommendations

- This document should be held as an Asbestos Register of the areas inspected and updated every 5 years or earlier where ACM have been disturbed or a risk assessment indicates the need for re-assessment. All occupiers of the workplace are to be provided with a copy of this register and all updates to it.
- If any material that may contain asbestos is found on site that is not included within the register, the material should be sent for identification and expert advice sought. The material should be assumed to contain asbestos in the interim.
- As a precautionary measure, all materials, which may contain asbestos, should be assumed to contain asbestos and treated appropriately until sampling and analysis confirms otherwise.
- In order to comply with the Work Health and Safety Regulations 2011 (NSW), any action taken to control asbestos and ACM in the place of work, or in plant at the place of work, is to be recorded in the Asbestos Control Log attached in **Appendix A**.
- Any areas of the workplace that contain ACM or lead including plant, equipment and components should be signposted with appropriate warning signs to ensure that asbestos or lead is not unknowingly disturbed without the correct precautions being taken. These signs should be placed at all the main entrances to the work areas where asbestos is present and should conform with Australian Standard 1319-1994 Safety Signs for the Occupational Environment.
- If asbestos materials become significantly damaged, weathered and/or produce visible dust or significant debris, then health and safety management works are likely to be required. A suitably qualified and experienced consultant, such as SLR, can advise and assist in carrying out such works.

- Prior to renovation or demolition works a refurbishment/demolition asbestos building materials survey should be undertaken by a suitable qualified and experience consultancy, such as SLR. A Refurbishment and/or Demolition Survey is required under the WHS Code of Practice: Demolition Work (2015) and AS2601 (2001): The Demolition of Structures.

5 LEGISLATION, GUIDELINES AND REGULATIONS

- Work Health and Safety Act 2011
- Work Health and Safety Regulations 2011
- Code of Practice: How to Safely Remove Asbestos [Safe Work Australia (2011)]
- Code of Practice: How to Manage and Control Asbestos in the Workplace [Safe Work Australia (2011)]
- Code of Practice: Demolition Work [Safe Work Australia (2015)]

- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [National Occupational Health and Safety Commission: 3003 (2005)]
- AS/NZS 1716-2012 - Respiratory Protective Devices
- AS/NZS 1715-2009 - Selection, Use and Maintenance of Respiratory Protective Devices
- AS 2601-2001 - The Demolition of Structures
- AS 1319-1994 Safety Signs for the Occupational Environment

ASBESTOS CONTROL LOG

To comply with the WHS Code of Practice How to Safely Remove Asbestos 2011, all actions taken to control asbestos and ACM are to be recorded in the table below. It is recommended that similar details also be recorded for any other asbestos materials identified.

NAME	COMPANY	DATE	ASBESTOS MATERIAL RELATED WORK UNDERTAKEN (Include any assessment concerning asbestos that took place before the work was carried out)	REFERENCE NUMBER (Include sample numbers, report numbers, quote number and/or purchase order number etc)
Narelle Carnes	SLR Consulting Australia Pty Ltd	17/01/2018	Asbestos Building Materials Survey	Report No 610.17816.00000.0240-R01-v1\ASR
Jason Adams	Blue Mountains City Council	29/10/2019	Partial Clearance Certificate	

Appendix B
Certificate of Analysis

ASBESTOS ANALYTICAL REPORT

Report Number 610.17816.00000/0240-R01-v0.1-ANA

Client:	Blue Mountains City Council
Client Contact:	Russell Brecknell
Client Address:	Locked Bag 1005 KATOOMBA NSW 2780
Date Sampled:	17-01-2018 & 24-01-2018
Report Date:	26-01-2018
Sampled By:	Narelle Carnes
Site Address/ Location:	Solitary Restaurant - 90 Cliff Dr, Katoomba NSW 2780
Work/Purchase Order:	1245
Test Methods:	Sample(s) examined under a Polarised Light Microscope including dispersion staining techniques, in accordance with AS 4964

Results

Sample No	Description	Location	Asbestos Present	Analysis Result
610.17816.00000/0240/01	Fibre Cement	External - Roof upper section - tiles	No	Organic Fibres
610.17816.00000/0240/02	Fibre Cement	External - SW Corner upper wall sheeting	Yes	Chrysotile and Org Fibres
610.17816.00000/0240/03	Fibre Cement	External - Back half restaurant - west soffits	Yes	Chrysotile and Org Fibres
610.17816.00000/0240/04	Fibre Cement	External - North side - wall sheet west side of back entrance - around electrical box	Yes	Chrysotile and Org Fibres
610.17816.00000/0240/05	Fibre Cement	Sealant around windows	No	Organic Fibres
610.17816.00000/0240/06	Fibre Cement	External - North side of building - wall to Store room / cool room	No	Organic Fibres
610.17816.00000/0240/07	Fibre Cement	Room with Cool room- northern section ceiling- directly above entrance door	Yes	Chrysotile and Org Fibres

Sample No	Description	Location	Asbestos Present	Analysis Result
610.17816.00000/0240/08	Fibre Cement	Room with Cool room- far northern infill in north west corner adjacent entrance door	No	Organic Fibres
610.17816.00000/0240/09	Fibre Cement	Room with Cool room - infill – on western wall - entrance door to kitchen	No	Organic Fibres
610.17816.00000/0240/10	Fibre Cement	Room with Cool room - northern entrance - infill adjacent entrance door	No	Organic Fibres
610.17816.00000/0240/11	Fibre Cement	Drinks room – upper north walls	Yes	Chrysotile and Org Fibres
610.17816.00000/0240/12	Fibre Cement	Drinks room - ceiling	Yes	Chrysotile and Org Fibres
610.17816.00000/0240/13	Fibre Cement	Ceiling above Cool room- southern section of ceiling	No	Organic Fibres
610.17816.00000/0240/14	Fibre Cement	Female Toilet – south wall	No	Organic Fibres
610.17816.00000/0240/15	Fibre Cement	North side - Electrical backing board	No	Organic Fibres
610.17816.00000/0240/16	Fibre Cement	Staff only area - adjacent male toilets – eastern wall	No	Organic Fibres
610.17816.00000/0240/17	Fibre Cement	Staff only area adjacent kitchen – eastern wall	No	Organic Fibres
610.17816.00000/0240/18	Vinyl Sheet	Hall leading to toilet areas – vinyl sheet floor	No	SMF and Organic Fibres
610.17816.00000/0240/19	Fibre Cement	Area before hallway to toilets - eastern wall	No	Organic Fibres
610.17816.00000/0240/20	Vinyl Sheet	Kitchen - vinyl sheet floor covering	No	SMF and Organic Fibres
610.17816.00000/0240/21	Vinyl Sheet	Kitchen - vinyl sheet wall lining	No	SMF and Organic Fibres
610.17816.00000/0240/22	Fibre Cement	Kitchen - ceiling to doorway into restaurant area	Yes	Chrysotile and Org Fibres
610.17816.00000/0240/23	Fibre Cement	Restaurant area enclosed porch – north wall	Yes	Chrysotile and Org Fibres
610.17816.00000/0240/24	Fibre Cement	Restaurant area enclosed porch – ceiling	Yes	Chrysotile and Org Fibres

Please direct correspondence to:

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Sample No	Description	Location	Asbestos Present	Analysis Result
610.17816.00000/0240/25	Fibre Cement	Kitchen - ceiling	Yes	Chrysotile and Org Fibres
610.17816.00000/0240/26	Fibre Cement	Area outside kitchen - upper west wall	No	Organic Fibres
610.17816.00000/0240/27	Fibre Cement	External - Western side of restaurant- sheeting below hot water system	No	Organic Fibres

Fibre identification Legend

AMO	Amosite (brown/grey asbestos)	ORF	Organic Fibre
BIT	Bitumen	NAD	No Asbestos Detected
CHR	Chrysotile (white asbestos)	NFD	No Fibres Detected
CRO	Crocidolite (blue asbestos)	SMF	Synthetic Mineral Fibre
INS	Insulation	UMF	Unknown Mineral Fibres

Notes:

- Sampling was undertaken by SLR
- The results contained within this report relate only to sample(s) submitted for testing

N. Carnes

NARELLE CARNES BASc DipWHS CertIVPM LAA
Associate - Hazmat

Limitations

Thus, while we carry out the work to the best of our ability, we totally exclude any loss or damages which may arise from services we have provided to Blue Mountains City Council and/or associated parties.

The analysis was undertaken by SLR Laboratory (NATA Accredited number: 3130).

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ASBESTOS ANALYTICAL REPORT

Report Number 610.17816.00000/0240-R04-V1.0-ANA

Client:	Blue Mountains City Council
Client Contact:	Russell Brecknell
Client Address:	Locked Bag 1005 KATOOMBA NSW 2780
Date Sampled:	28.01.2018 – 01.03.2018
Report Date:	07.03.2018
Sampled By:	Matt Hemingway and Jordan Harley
Site Address/ Location:	Solitary Restaurant - 90 Cliff Dr, Katoomba NSW 2780
Test Methods:	Sample(s) examined under a Polarised Light Microscope including dispersion staining techniques, in accordance with AS 4964

Results

Sample Number	Description	Location	Asbestos Present	Analysis Result
610.17816.00000/0240/AD3	Dust sample	Ceiling cavity adjacent access point	No	ORF
610.17816.00000/0240/AD4	Dust sample	Ceiling cavity north end of pitched roof	No	ORF
610.17816.00000/0240/AD6	Dust sample	Floor below ceiling access point	No	ORF
610.17816.00000/0240/AD7	Dust sample	Ceiling timber, south corner, towards guttering	Yes	CHR, ORF
610.17816.00000/0240/AD8	Dust sample	Ceiling timber, south east aspect, above glass doorway to lawn	Yes	CHR, ORF
610.17816.00000/0240/AD9	Dust sample	Ceiling timber, south west aspect, adjacent to art booth	Yes	CHR, ORF
610.17816.00000/0240/AD10	Dust sample	Ceiling timber, south corner, toward centre of building	Yes	CHR, ORF

Fibre identification Legend

AMO	Amosite (brown/grey asbestos)	ORF	Organic Fibre
BIT	Bitumen	NAD	No Asbestos Detected
CHR	Chrysotile (white asbestos)	NFD	No Fibres Detected
CRO	Crocidolite (blue asbestos)	SMF	Synthetic Mineral Fibre
INS	Insulation	UMF	Unknown Mineral Fibres

Notes:

- Sampling was undertaken by SLR
- The results contained within this report relate only to sample(s) submitted for testing

If you have any questions please do not hesitate to contact me on +61 400 855 595 or email jharley@slrconsulting.com.

Jordan Harley

Project Consultant (BEnvSc)

Limitations

Thus, while we carry out the work to the best of our ability, we totally exclude any loss or damages which may arise from services we have provided to Blue Mountains City Council and/or associated parties.

The analysis was undertaken by Eurofins Mgt (NATA Accredited number: 3130).

All work conducted and reports produced by SLR Consulting are prepared for a particular Client's objective and are based on a specific scope, conditions and limitations, as agreed upon between SLR Consulting and the Client. Information and/or report(s) prepared by SLR Consulting may therefore not be suitable for any use other than the intended objective. No parties other than the Client should use any information and/or report(s) without first conferring with SLR Consulting.

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Please direct correspondence to:

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E: Hazmatau@slrconsulting.com www.slrconsulting.com

ASBESTOS ANALYTICAL REPORT

Report Number 610.17816.00000/0240-R05-v0.1-ANA

Client:	Blue Mountains City Council
Client Contact:	Russell Brecknell
Client Address:	Locked Bag 1005 KATOOMBA NSW 2780
Date Sampled:	06-03-2018
Report Date:	08-03-2018
Sampled By:	Matt Hemingway
Site Address/ Location:	Solitary Restaurant - 90 Cliff Dr, Katoomba NSW 2780
Test Methods:	Sample(s) examined under a Polarised Light Microscope including dispersion staining techniques, in accordance with AS 4964

Results

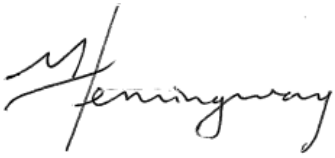
Sample Number	Description	Location	Asbestos Present	Analysis Result
610.17816.00000/0240/6.3.A1	Dust sample	Reception room floor beneath replaced panel	No	ORF
610.17816.00000/0240/6.3.A2	Dust sample	Dining room floor beneath ceiling feature	No	ORF
610.17816.00000/0240/6.3.A3	Dust sample	Windowsill, south corner of dining room	No	ORF
610.17816.00000/0240/6.3.A4	Dust sample	Dining room floor, dining room art booth	No	ORF
610.17816.00000/0240/6.3.A5	Dust sample	Kitchen floor, next to floating bench	No	ORF
610.17816.00000/0240/6.3.A6	Dust sample	Windowsill, west end of kitchen	No	ORF

Fibre identification Legend

AMO	Amosite (brown/grey asbestos)	ORF	Organic Fibre
BIT	Bitumen	NAD	No Asbestos Detected
CHR	Chrysotile (white asbestos)	NFD	No Fibres Detected
CRO	Crocidolite (blue asbestos)	SMF	Synthetic Mineral Fibre
INS	Insulation	UMF	Unknown Mineral Fibres

Notes:

- Sampling was undertaken by SLR
- The results contained within this report relate only to sample(s) submitted for testing



Matt Hemingway
Senior Project Consultant

Limitations

Thus, while we carry out the work to the best of our ability, we totally exclude any loss or damages which may arise from services we have provided to Blue Mountains City Council and/or associated parties.

The analysis was undertaken by Eurofins Mgt (NATA Accredited number: 3130).

All work conducted and reports produced by SLR Consulting are prepared for a particular Client's objective and are based on a specific scope, conditions and limitations, as agreed upon between SLR Consulting and the Client. Information and/or report(s) prepared by SLR Consulting may therefore not be suitable for any use other than the intended objective. No parties other than the Client should use any information and/or report(s) without first conferring with SLR Consulting.

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E: Hazmatau@slrconsulting.com www.slrconsulting.com

Plate 1: Reception room floor beneath replaced panel

Plate 2: Dining room floor beneath ceiling feature

Plate 3: Windowsill, south corner of dining room

Plate 4: Dining room floor, dining room art booth

Plate 5: Kitchen floor, next to floating bench

Plate 6: Windowsill, west end of kitchen

Please direct correspondence to:

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Certificate of Analysis

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.

SLR Consulting
2 Lincoln St
Lane Cove West
NSW 2066

Attention:	Matt Hemingway
Report	588122-AID
Project Name	SOLITARY
Project ID	610.17816.00000.0240
Received Date	Mar 07, 2018
Date Reported	Mar 07, 2018

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 AS4964 method for inhomogeneous samples is around 0.1 g/kg (0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis where required, this is considered to be at the nominal reporting limit of 0.01 % (w / w).The examination of large sample sizes(500 mL is recommended) may improve the likelihood of identifying ACM in the > 2mm fraction.The NEPM screening level of 0.001 % (w / w) asbestos in soil for FA(friable asbestos) and AF(asbestos fines) then applies where they are able to be quantified by gravimetric procedures.This quantitative screening is not generally applicable to FF(free fibres) and results of Trace Analysis are referred. *NOTE: NATA News March 2014, p.7, states in relation to AS4964: "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". Accordingly, NATA Accreditation does not cover the performance of this service (indicated with an asterisk).* *This report is consistent with the analytical procedures and reporting recommendations in the National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended) and the 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, June 2011.*

Project Name SOLITARY
Project ID 610.17816.00000.0240
Date Sampled Mar 07, 2018
Report 588122-AID

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
610.17816.00000.0240/6.3 - A1	18-Ma06999	Mar 07, 2018	Approximate Sample <1g / 50x10x<1mm Sample consisted of: Brown dust and fibrous debris on tape	No asbestos detected.* Organic fibre detected.
610.17816.00000.0240/6.3 - A2	18-Ma07000	Mar 07, 2018	Approximate Sample <1g / 50x10x<1mm Sample consisted of: Brown dust and fibrous debris on tape	No asbestos detected.* Organic fibre detected.
610.17816.00000.0240/6.3 - A3	18-Ma07001	Mar 07, 2018	Approximate Sample <1g / 60x10x<1mm Sample consisted of: Brown dust and fibrous debris on tape	No asbestos detected.* Organic fibre detected.
610.17816.00000.0240/6.3 - A4	18-Ma07002	Mar 07, 2018	Approximate Sample <1g / 50x10x<1mm Sample consisted of: Brown dust and fibrous debris on tape	No asbestos detected.* Organic fibre detected.
610.17816.00000.0240/6.3 - A5	18-Ma07003	Mar 07, 2018	Approximate Sample <1g / 70x10x<1mm Sample consisted of: Brown dust and fibrous debris on tape	No asbestos detected.* Organic fibre detected.
610.17816.00000.0240/6.3 - A6	18-Ma07004	Mar 07, 2018	Approximate Sample <1g / 70x10x<1mm Sample consisted of: Brown dust and fibrous debris on tape	No asbestos detected.* Organic fibre 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 (regarding both quality and NATA accreditation).

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 07, 2018	Indefinite

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Sydney
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NATA # 1261 Site # 18217

Brisbane
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NATA # 1261 Site # 20794

Perth
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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: SLR Consulting (Sydney)
Address: 2 Lincoln St
Lane Cove West
NSW 2066

Project Name: SOLITARY
Project ID: 610.17816.00000.0240

Order No.: 24015
Report #: 588122
Phone: 02 9428 8100
Fax:

Received: Mar 7, 2018 10:15 AM
Due: Mar 7, 2018
Priority: Same day
Contact Name: Matt Hemingway

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Absence /Presence	Lead
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						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	610.17816.00000.0240/6.3 - L1	Mar 07, 2018		Wipes	S18-Ma06993		X
2	610.17816.00000.0240/6.3 - L2	Mar 07, 2018		Wipes	S18-Ma06994		X
3	610.17816.00000.0240/6.3 - L3	Mar 07, 2018		Wipes	S18-Ma06995		X
4	610.17816.00000.0240/6.3 - L4	Mar 07, 2018		Wipes	S18-Ma06996		X

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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: SLR Consulting (Sydney)
Address: 2 Lincoln St
Lane Cove West
NSW 2066

Project Name: SOLITARY
Project ID: 610.17816.00000.0240

Order No.: 24015
Report #: 588122
Phone: 02 9428 8100
Fax:

Received: Mar 7, 2018 10:15 AM
Due: Mar 7, 2018
Priority: Same day
Contact Name: Matt Hemingway

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Absence /Presence	Lead
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
5	610.17816.00000.0240/6.3 - L5	Mar 07, 2018		Wipes	S18-Ma06997		X
6	610.17816.00000.0240/6.3 - L6	Mar 07, 2018		Wipes	S18-Ma06998		X
7	610.17816.00000.0240/6.3 - A1	Mar 07, 2018		Dust	S18-Ma06999	X	
8	610.17816.00000.0240/6.3 - A2	Mar 07, 2018		Dust	S18-Ma07000	X	
9	610.17816.00000.0240/6.3 - A3	Mar 07, 2018		Dust	S18-Ma07001	X	

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NATA # 1261 Site # 20794

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NATA # 1261
Site # 23736

Company Name:	SLR Consulting (Sydney)	**Order No.:**	24015	**Received:**	Mar 7, 2018 10:15 AM
Address:	2 Lincoln St Lane Cove West NSW 2066	**Report #:**	588122	**Due:**	Mar 7, 2018
		Phone:	02 9428 8100	**Priority:**	Same day
		Fax:		**Contact Name:**	Matt Hemingway
Project Name:	SOLITARY				
Project ID:	610.17816.00000.0240				

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Absence /Presence	Lead
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
10	610.17816.00000.0240/6.3 - A4	Mar 07, 2018		Dust	S18-Ma07002	X	
11	610.17816.00000.0240/6.3 - A5	Mar 07, 2018		Dust	S18-Ma07003	X	
12	610.17816.00000.0240/6.3 - A6	Mar 07, 2018		Dust	S18-Ma07004	X	
Test Counts						6	6

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. 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	Where a moisture has been determined on a solid sample the result is expressed on a dry basis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Western Australia Department of Health
NOHSC	National Occupational Health and Safety Commission
ACM	Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential for fibre release.
FA	FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling).
PACM	Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos.
AF	Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve. (Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substatntial degree of damage which increases the potential for fibre release.)
AC	Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios).

Comments

Sample analysed as received; however, sticky tape sampling is not a recommended method of dust sampling for asbestos analysis.

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
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

Comments

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

Authorised by:

Matthew Quigley	Senior Analyst-Asbestos (NSW)

Glenn Jackson
National Operations Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

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Certificate of Analysis

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NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **Narelle Carnes**

Report **581844-A**
Project name 610.17816.00000
Project ID 610.17816.00000
Received Date Jan 25, 2018

Client Sample ID			**610.17816.00000/S1**
Sample Matrix			**Wipes**
Eurofins | mgt Sample No.			**S18-Ja20072**
Date Sampled			**Jan 22, 2018**
Test/Reference	LOR	Unit	
Heavy Metals			
Lead	1	Total ug	11000

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 (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Sydney	Jan 25, 2018	180 Day

- Method: E022.4 Acid Extractable Metals in Filters and Wipes

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NATA # 1261
Site # 23736

Company Name:	SLR Consulting (Sydney)	**Order No.:**		**Received:**	Jan 25, 2018 11:17 AM
Address:	2 Lincoln St Lane Cove West NSW 2066	**Report #:**	581844	**Due:**	Jan 31, 2018
		Phone:	02 9428 8100	**Priority:**	3 Day
		Fax:		**Contact Name:**	Narelle Carnes
Project Name:	610.17816.00000				
Project ID:	610.17816.00000				

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Lead
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	610.17816.00000/S1	Jan 22, 2018		Wipes	S18-Ja20072	X
Test Counts						1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. All biota 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. 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.

****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	Quality Systems Manual ver 5.1 US Department of Defense
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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. 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	No
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

Comments

Authorised By

Andrew Black Analytical Services Manager

Glenn Jackson
National Operations 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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30 years Testing For Life 1987–2017
Celebrating 30 years Testing and Protecting Human Health

Certificate of Analysis

SLR Consulting
2 Lincoln St
Lane Cove West
NSW 2066

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: **Narelle Carnes**

Report **582765-A**
Project name 610.17816.00240
Project ID 610.17816.00240
Received Date Feb 01, 2018

Client Sample ID			**610.17816.00240/SR1**	**610.17816.00240/SR2**	**610.17816.00240/SR3**	**610.17816.00240/SR4**
Sample Matrix			**Wipes**	**Wipes**	**Wipes**	**Wipes**
Eurofins | mgt Sample No.			**S18-Fe00896**	**S18-Fe00897**	**S18-Fe00898**	**S18-Fe00899**
Date Sampled			**Feb 01, 2018**	**Feb 01, 2018**	**Feb 01, 2018**	**Feb 01, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	1	Total ug	< 1	3.4	4.3	< 1

Client Sample ID			**610.17816.00240/SR5**	**610.17816.00240/SR6**	**610.17816.00240/SR7**	**610.17816.00240/SR8**
Sample Matrix			**Wipes**	**Wipes**	**Wipes**	**Wipes**
Eurofins | mgt Sample No.			**S18-Fe00900**	**S18-Fe00901**	**S18-Fe00902**	**S18-Fe00903**
Date Sampled			**Feb 01, 2018**	**Feb 01, 2018**	**Feb 01, 2018**	**Feb 01, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	1	Total ug	12	< 1	13	1.0

Client Sample ID			**610.17816.00240/SR9**	**610.17816.00240/SR10**	**610.17816.00240/SR11**	**610.17816.00240/SR12**
Sample Matrix			**Wipes**	**Wipes**	**Wipes**	**Wipes**
Eurofins | mgt Sample No.			**S18-Fe00904**	**S18-Fe00905**	**S18-Fe00906**	**S18-Fe00907**
Date Sampled			**Feb 01, 2018**	**Feb 01, 2018**	**Feb 01, 2018**	**Feb 01, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	1	Total ug	12	7.4	61	5.9

Client Sample ID			**610.17816.00240/SR13**
Sample Matrix			**Wipes**
Eurofins | mgt Sample No.			**S18-Fe00908**
Date Sampled			**Feb 01, 2018**
Test/Reference	LOR	Unit	
Heavy Metals			
Lead	1	Total ug	13

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 (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Sydney	Feb 01, 2018	180 Day

- Method: E022.4 Acid Extractable Metals in Filters and Wipes

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Site # 1254 & 14271

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

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Site # 23736

Company Name:	SLR Consulting (Sydney)	**Order No.:**	23852	**Received:**	Feb 1, 2018 4:00 PM
Address:	2 Lincoln St Lane Cove West NSW 2066	**Report #:**	582765	**Due:**	Feb 2, 2018
		Phone:	02 9428 8100	**Priority:**	Overnight
		Fax:		**Contact Name:**	Narelle Carnes
Project Name:	610.17816.00240				
Project ID:	610.17816.00240				

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Lead
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	610.17816.00240/SR1	Feb 01, 2018		Wipes	S18-Fe00896	X
2	610.17816.00240/SR2	Feb 01, 2018		Wipes	S18-Fe00897	X
3	610.17816.00240/SR3	Feb 01, 2018		Wipes	S18-Fe00898	X
4	610.17816.00240/SR4	Feb 01, 2018		Wipes	S18-Fe00899	X
5	610.17816.00240/SR5	Feb 01, 2018		Wipes	S18-Fe00900	X
6	610.17816.002	Feb 01, 2018		Wipes	S18-Fe00901	X

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NATA # 1261
Site # 23736

Company Name: SLR Consulting (Sydney)
Address: 2 Lincoln St
Lane Cove West
NSW 2066

Project Name: 610.17816.00240
Project ID: 610.17816.00240

Order No.: 23852
Report #: 582765
Phone: 02 9428 8100
Fax:

Received: Feb 1, 2018 4:00 PM
Due: Feb 2, 2018
Priority: Overnight
Contact Name: Narelle Carnes

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Lead
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
	40/SR6					
7	610.17816.002 40/SR7	Feb 01, 2018		Wipes	S18-Fe00902	X
8	610.17816.002 40/SR8	Feb 01, 2018		Wipes	S18-Fe00903	X
9	610.17816.002 40/SR9	Feb 01, 2018		Wipes	S18-Fe00904	X
10	610.17816.002 40/SR10	Feb 01, 2018		Wipes	S18-Fe00905	X
11	610.17816.002 40/SR11	Feb 01, 2018		Wipes	S18-Fe00906	X
12	610.17816.002 40/SR12	Feb 01, 2018		Wipes	S18-Fe00907	X
13	610.17816.002	Feb 01, 2018		Wipes	S18-Fe00908	X

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Site # 23736

Company Name:	SLR Consulting (Sydney)	**Order No.:**	23852	**Received:**	Feb 1, 2018 4:00 PM
Address:	2 Lincoln St Lane Cove West NSW 2066	**Report #:**	582765	**Due:**	Feb 2, 2018
		Phone:	02 9428 8100	**Priority:**	Overnight
		Fax:		**Contact Name:**	Narelle Carnes
Project Name:	610.17816.00240				
Project ID:	610.17816.00240				

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail	Lead
Melbourne Laboratory - NATA Site # 1254 & 14271	
Sydney Laboratory - NATA Site # 18217	X
Brisbane Laboratory - NATA Site # 20794	
Perth Laboratory - NATA Site # 23736	
40/SR13	
Test Counts	13

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. All biota 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. 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.

****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	Quality Systems Manual ver 5.1 US Department of Defense
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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
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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

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
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

Comments

Authorised By

Andrew Black Analytical Services Manager

Glenn Jackson
National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

Certificate of Analysis

SLR Consulting
2 Lincoln St
Lane Cove West
NSW 2066

Attention: **Jordan Harley**

Report **587432-A**
Project name SOLITARY
Project ID 610.17816.00000.0240
Received Date Mar 02, 2018

Client Sample ID			**LD1**	**LD2**	**LD3**	**LD4**
Sample Matrix			**Wipes**	**Wipes**	**Wipes**	**Wipes**
Eurofins | mgt Sample No.			**S18-Ma02193**	**S18-Ma02194**	**S18-Ma02195**	**S18-Ma02196**
Date Sampled			**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	1	Total ug	16	6.3	4.7	4.4

Client Sample ID			**LD5**	**LD6**	**LD7**	**LD8**
Sample Matrix			**Wipes**	**Wipes**	**Wipes**	**Wipes**
Eurofins | mgt Sample No.			**S18-Ma02197**	**S18-Ma02198**	**S18-Ma02199**	**S18-Ma02200**
Date Sampled			**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	1	Total ug	1.2	32	23	< 1

Client Sample ID			**LD9**	**LD10**	**LD11**	**LD12**
Sample Matrix			**Wipes**	**Wipes**	**Wipes**	**Wipes**
Eurofins | mgt Sample No.			**S18-Ma02201**	**S18-Ma02202**	**S18-Ma02203**	**S18-Ma02204**
Date Sampled			**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	1	Total ug	36	59	130	210

Client Sample ID			**28-01**	**28-02**	**01-01**	**01-02**
Sample Matrix			**Filter paper**	**Filter paper**	**Filter paper**	**Filter paper**
Eurofins | mgt Sample No.			**S18-Ma02205**	**S18-Ma02206**	**S18-Ma02209**	**S18-Ma02210**
Date Sampled			**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	1	Total ug	< 1	< 1	< 1	< 1

Client Sample ID			01-03	01-04	27-01	27-02
Sample Matrix			**Filter paper**	**Filter paper**	**Filter paper**	**Filter paper**
Eurofins | mgt Sample No.			**S18-Ma02211**	**S18-Ma02212**	**S18-Ma02234**	**S18-Ma02235**
Date Sampled			**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**	**Mar 01, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	1	Total ug	< 1	< 1	< 1	< 1

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 (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Sydney	Mar 02, 2018	180 Day

- Method: E022.4 Acid Extractable Metals in Filters and Wipes

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Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Company Name: SLR Consulting (Sydney)
Address: 2 Lincoln St
Lane Cove West
NSW 2066

Project Name: SOLITARY
Project ID: 610.17816.00000.0240

Order No.: 23995
Report #: 587432
Phone: 02 9428 8100
Fax:

Received: Mar 2, 2018 2:16 PM
Due: Mar 5, 2018
Priority: 1 Day
Contact Name: Jordan Harley

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Absence /Presence	CANCELLED	Lead
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						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	LD1	Mar 01, 2018		Wipes	S18-Ma02193			X
2	LD2	Mar 01, 2018		Wipes	S18-Ma02194			X
3	LD3	Mar 01, 2018		Wipes	S18-Ma02195			X
4	LD4	Mar 01, 2018		Wipes	S18-Ma02196			X
5	LD5	Mar 01, 2018		Wipes	S18-Ma02197			X
6	LD6	Mar 01, 2018		Wipes	S18-Ma02198			X
7	LD7	Mar 01, 2018		Wipes	S18-Ma02199			X
8	LD8	Mar 01, 2018		Wipes	S18-Ma02200			X
9	LD9	Mar 01, 2018		Wipes	S18-Ma02201			X

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Company Name: SLR Consulting (Sydney)
Address: 2 Lincoln St
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NSW 2066

Project Name: SOLITARY
Project ID: 610.17816.00000.0240

Order No.: 23995
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Received: Mar 2, 2018 2:16 PM
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Priority: 1 Day
Contact Name: Jordan Harley

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Absence /Presence	CANCELLED	Lead
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
10	LD10	Mar 01, 2018		Wipes	S18-Ma02202			X
11	LD11	Mar 01, 2018		Wipes	S18-Ma02203			X
12	LD12	Mar 01, 2018		Wipes	S18-Ma02204			X
13	28-01	Mar 01, 2018		Filter paper	S18-Ma02205			X
14	28-02	Mar 01, 2018		Filter paper	S18-Ma02206			X
15	29-01	Mar 01, 2018		Filter paper	S18-Ma02207		X	
16	29-02	Mar 01, 2018		Filter paper	S18-Ma02208		X	
17	01-01	Mar 01, 2018		Filter paper	S18-Ma02209			X
18	01-02	Mar 01, 2018		Filter paper	S18-Ma02210			X
19	01-03	Mar 01, 2018		Filter paper	S18-Ma02211			X
20	01-04	Mar 01, 2018		Filter paper	S18-Ma02212			X
21	AD 1	Mar 01, 2018		Dust	S18-Ma02213	X		

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Project Name: SOLITARY
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Contact Name: Jordan Harley

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Absence /Presence	CANCELLED	Lead
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
22	AD 2	Mar 01, 2018		Dust	S18-Ma02214	X		
23	AD 3	Mar 01, 2018		Dust	S18-Ma02215	X		
24	AD 4	Mar 01, 2018		Dust	S18-Ma02216	X		
25	AD 5	Mar 01, 2018		Dust	S18-Ma02217	X		
26	AD 6	Mar 01, 2018		Dust	S18-Ma02218	X		
27	AD 7	Mar 01, 2018		Dust	S18-Ma02219	X		
28	AD 8	Mar 01, 2018		Dust	S18-Ma02220	X		
29	AD 9	Mar 01, 2018		Dust	S18-Ma02221	X		
30	AD 10	Mar 01, 2018		Dust	S18-Ma02222	X		
31	27-01	Mar 01, 2018		Filter paper	S18-Ma02234			X
32	27-02	Mar 01, 2018		Filter paper	S18-Ma02235			X
Test Counts						10	2	20

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. All biota 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. 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.

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	Quality Systems Manual ver 5.1 US Department of Defense
CP	Client Parent - QC was performed on samples pertaining to this report
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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 50-150%-Phenols & PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.1 where no positive PFAS results have been reported have been reviewed and no data was affected.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. 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

Comments

Sample Integrity

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

Comments

Authorised By

Andrew Black Analytical Services Manager

Glenn Jackson
National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

Certificate of Analysis

SLR Consulting
2 Lincoln St
Lane Cove West
NSW 2066

Attention: **Matt Hemingway**

Report **588122-A**
Project name SOLITARY
Project ID 610.17816.00000.0240
Received Date Mar 07, 2018

Client Sample ID			**610.17816.00000.0240/6.3 - L1**	**610.17816.00000.0240/6.3 - L2**	**610.17816.00000.0240/6.3 - L3**	**610.17816.00000.0240/6.3 - L4**
Sample Matrix			**Wipes**	**Wipes**	**Wipes**	**Wipes**
Eurofins | mgt Sample No.			**S18-Ma06993**	**S18-Ma06994**	**S18-Ma06995**	**S18-Ma06996**
Date Sampled			**Mar 07, 2018**	**Mar 07, 2018**	**Mar 07, 2018**	**Mar 07, 2018**
Test/Reference	LOR	Unit				
Heavy Metals						
Lead	1	Total ug	< 1	< 1	< 1	2.0

Client Sample ID			**610.17816.00000.0240/6.3 - L5**	**610.17816.00000.0240/6.3 - L6**
Sample Matrix			**Wipes**	**Wipes**
Eurofins | mgt Sample No.			**S18-Ma06997**	**S18-Ma06998**
Date Sampled			**Mar 07, 2018**	**Mar 07, 2018**
Test/Reference	LOR	Unit		
Heavy Metals				
Lead	1	Total ug	6.0	2.6

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 (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Sydney	Mar 07, 2018	180 Day

- Method: E022.4 Acid Extractable Metals in Filters and Wipes

eurofins | mgt

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e.mail : EnviroSales@eurofins.com
web : www.eurofins.com.au

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Oakleigh VIC 3166
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

Company Name:	SLR Consulting (Sydney)	**Order No.:**	24015	**Received:**	Mar 7, 2018 10:15 AM
Address:	2 Lincoln St Lane Cove West NSW 2066	**Report #:**	588122	**Due:**	Mar 7, 2018
		Phone:	02 9428 8100	**Priority:**	Same day
		Fax:		**Contact Name:**	Matt Hemingway
Project Name:	SOLITARY				
Project ID:	610.17816.00000.0240				

Eurofins | mgt Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Absence /Presence	Lead
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						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	610.17816.00000.0240/6.3 - L1	Mar 07, 2018		Wipes	S18-Ma06993		X
2	610.17816.00000.0240/6.3 - L2	Mar 07, 2018		Wipes	S18-Ma06994		X
3	610.17816.00000.0240/6.3 - L3	Mar 07, 2018		Wipes	S18-Ma06995		X
4	610.17816.00000.0240/6.3 - L4	Mar 07, 2018		Wipes	S18-Ma06996		X

eurofins | mgt

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

Melbourne
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Address: 2 Lincoln St
Lane Cove West
NSW 2066

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Melbourne Laboratory - NATA Site # 1254 & 14271							
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Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
5	610.17816.00000.0240/6.3 - L5	Mar 07, 2018		Wipes	S18-Ma06997		X
6	610.17816.00000.0240/6.3 - L6	Mar 07, 2018		Wipes	S18-Ma06998		X
7	610.17816.00000.0240/6.3 - A1	Mar 07, 2018		Dust	S18-Ma06999	X	
8	610.17816.00000.0240/6.3 - A2	Mar 07, 2018		Dust	S18-Ma07000	X	
9	610.17816.00000.0240/6.3 - A3	Mar 07, 2018		Dust	S18-Ma07001	X	

eurofins | mgt

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Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
10	610.17816.00000.0240/6.3 - A4	Mar 07, 2018		Dust	S18-Ma07002	X	
11	610.17816.00000.0240/6.3 - A5	Mar 07, 2018		Dust	S18-Ma07003	X	
12	610.17816.00000.0240/6.3 - A6	Mar 07, 2018		Dust	S18-Ma07004	X	
Test Counts						6	6

Internal Quality Control Review and Glossary

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Quality Control Results

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	No
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

Comments

Authorised By

Andrew Black Analytical Services Manager

Glenn Jackson
National Operations 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.

Surveys are conducted in a conscientious and professional manner. The nature of the task and the likely disproportion between any damage or loss which might arise from the work or reports prepared, and the cost of our services, is such that SLR cannot guarantee that all asbestos building materials have been identified and/or addressed.

Due to the possibility of renovations and additions to the building(s) over time, ACMs may have been concealed (for example behind new walls, flooring, ceilings, within boxing, etc.); such areas were inaccessible during the inspection. It is recommended that prior to any refurbishment/demolition works at the site that a full destructive asbestos building materials refurbishment/demolition survey is undertaken by a suitably qualified and experienced consultancy, such as SLR. An intrusive survey is required under AS 2601 (2001) The Demolition of Structures. If any materials reasonably suspected of containing asbestos are found on site, which are not identified within this report, the client's independent consultant, SLR, should be contacted to complete additional confirmatory sampling and analysis as required.

A change in building use/nature of activities could affect the control actions recommended within this report and a re-survey may be required.

Thus, while we carry out the work to the best of our ability, we totally exclude any loss or damages which may arise from services we have provided to Blue Mountains City Council and/or associated parties.

Where potentially ACMs are identified these are normally reported on to the best of the consultant's ability. Analysis is not normally included and there is no guarantee that all such materials have been identified and/or addressed.

All work conducted and reports produced by SLR are prepared for a particular Client's objective and are based on a specific scope, conditions and limitations, as agreed upon between SLR and the Client. Information and/or report(s) prepared by SLR may therefore not be suitable for any use other than the intended objective. No parties other than the Client should use any information and/or report(s) without first conferring with SLR.

Before passing on to a third party any information and/or report(s) prepared by SLR, the Client is to inform fully the third party of the objective and scope, and all limitations and conditions, including any other relevant information which applies to the information and/or report(s) prepared by SLR.

It is the responsibility of third parties to investigate fully to their satisfaction if any information and/or report(s) prepared by SLR are suitable for a specific objective.

The report(s) and/or information produced by SLR should not be reproduced and/or presented/reviewed except in full.

Materials other than asbestos are generally outside the scope as identification can require specialised analysis/inspection techniques.

Settled dust is generally not sampled or commented on. Settled dust may contain asbestos, particularly if it is in the vicinity of ACM or areas where ACM have been removed.

Location:	Katoomba Solitary Restaurant , Ground - Floor Kitchen	Material Application	Upper walls, Fibrous Cement	Extent:	27m²	Sample Number	Similar to 11

Main Photo	Close Up Photo		
No Photo Available	No Photo Available	Product Type	Asbestos reinforced composites etc. (1)
		Condition	Good (0)
		Surface Treatment	Sealed (0)
		Asbestos Type	Chrysotile (1)
		Recommendation:	Manage

Material Score
2
Risk
Very Low

Location:	Katoomba Solitary Restaurant , Ground - Floor Kitchen - ceiling to doorway into restaurant area	Material Application	Ceiling, Fibrous Cement	Extent:	<1 m²	Sample Number	22

Main Photo	Close Up Photo		
		Product Type	Asbestos reinforced composites etc. (1)
		Condition	Good (0)
		Surface Treatment	Sealed (0)
		Asbestos Type	Chrysotile (1)
		Recommendation:	Manage

Material Score
2
Risk
Very Low

Location:	Katoomba Solitary Restaurant , Ground Floor - Restaurant area in outer porch area	Material Application	Northern and western upper walls , Fibrous Cement	Extent:	21 m²	Sample Number	23

Main Photo	Close Up Photo
	

Product Type	Asbestos reinforced composites etc. (1)
Condition	Good (0)
Surface Treatment	Sealed (0)
Asbestos Type	Chrysotile (1)
Recommendation:	Manage

Material Score
2
Risk
Very Low

Location:	Katoomba Solitary Restaurant , Ground Floor - Restaurant area enclosed porch	Material Application	Ceiling, Fibrous Cement	Extent:	16 m²	Sample Number	24

Main Photo	Close Up Photo
	

Product Type	Asbestos reinforced composites etc. (1)
Condition	Good (0)
Surface Treatment	Sealed (0)
Asbestos Type	Chrysotile (1)
Recommendation:	Manage

Material Score
2
Risk
Very Low

Location:	Katoomba Solitary Restaurant , Ground Floor - Kitchen	Material Application	Ceiling, Fibrous Cement	Extent:	27 m²	Sample Number	25

Main Photo	Close Up Photo			Material Score
		Product Type	Asbestos reinforced composites etc. (1)	2
		Condition	Good (0)	Risk
		Surface Treatment	Sealed (0)	Very Low
		Asbestos Type	Chrysotile (1)	
		Recommendation:	Manage	

Location:	Katoomba Solitary Restaurant , Ground Floor - Reception	Material Application	Ceiling, Fibrous Cement	Extent:	16 m²	Sample Number	Similar to 12

Main Photo	Close Up Photo			Material Score
		Product Type	Asbestos reinforced composites etc. (1)	3
		Condition	Fair (1)	Risk
		Surface Treatment	Sealed (0)	Very Low
		Asbestos Type	Chrysotile (1)	
		Recommendation:	Manage	

Location:	Katoomba Solitary Restaurant , Ground Floor - Restaurant entrance area -Upper walls	Material Application	Upper walls, Fibrous Cement	Extent:	18 m²	Sample Number	Similar to 11

Main Photo	Close Up Photo
	

Product Type	Asbestos reinforced composites etc. (1)
Condition	Good (0)
Surface Treatment	Sealed (0)
Asbestos Type	Chrysotile (1)
Recommendation:	Manage

Material Score
2
Risk
Very Low

Location:	Katoomba Solitary Restaurant , Ground Floor - Restaurant entrance area -ceiling	Material Application	Ceiling, Fibrous Cement	Extent:	9 m²	Sample Number	Similar to 12

Main Photo	Close Up Photo
	

Product Type	Asbestos reinforced composites etc. (1)
Condition	Good (0)
Surface Treatment	Sealed (0)
Asbestos Type	Chrysotile (1)
Recommendation:	Manage

Material Score
2
Risk
Very Low

Location:	Katoomba Solitary Restaurant , External - Back half restaurant - North, east and west soffits - also run on the western soffit	Material Application	Soffit, Fibrous Cement	Extent:	12 m²	Sample Number	03

Main Photo	Close Up Photo			Material Score
		Product Type	Asbestos reinforced composites etc. (1)	3
		Condition	Fair(1)	Risk
		Surface Treatment	Sealed (0)	Very Low
		Asbestos Type	Chrysotile (1)	
		Recommendation:	Manage	

Location:	Restaurant, Ground Floor - Ceiling cavity - Hot water system	Material Application	Old style hot water system internal insulation material, Insulation	Extent:	Unknown	Sample Number	Assumed

Main Photo	Close Up Photo			Material Score
	No Photo Available	Product Type	Thermal insulation, sprayed asbestos, loose asbestos etc. (3)	6
		Condition	Good (0)	Risk
		Surface Treatment	Composite materials sealed by nature, Sealed (0)	Low
		Asbestos Type	Assumed Asbestos (3)	
		Recommendation:		

Location:	Restaurant, Ground Floor - Room with Cool room- northern section ceiling-directly above entrance door	Material Application	ceiling, Fibrous Cement	Extent:	4 m²	Sample Number	07

Main Photo	Close Up Photo		
		Product Type	Asbestos reinforced composites etc. (1)
		Condition	Good (0)
		Surface Treatment	Sealed (0)
		Asbestos Type	Chrysotile (1)
		Recommendation:	Manage

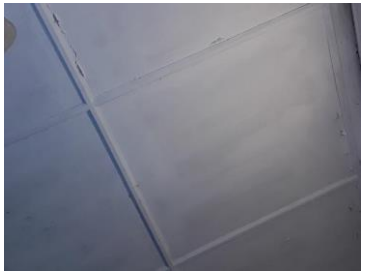
Material Score
2
Risk
Very Low

Location:	Restaurant, Ground Floor - Cool room drinks room - upper walls	Material Application	Upper walls north and east, Fibrous Cement	Extent:	18 m²	Sample Number	11

Main Photo	Close Up Photo		
		Product Type	Asbestos reinforced composites etc. (1)
		Condition	Good (0)
		Surface Treatment	Sealed (0)
		Asbestos Type	Chrysotile (1)
		Recommendation:	Manage

Material Score
4
Risk
Very Low

Location:	Restaurant, Ground Floor - Cool room drinks room - ceiling	Material Application	Ceiling throughout, Fibrous Cement	Extent:	6 m²	Sample Number	12

Main Photo	Close Up Photo			Material Score
		Product Type	Asbestos reinforced composites etc. (1)	2
		Condition	Good (0)	Risk
		Surface Treatment	Sealed (0)	Very Low
		Asbestos Type	Chrysotile (1)	
		Recommendation:	Manage	

Location:	Restaurant, External - S/W Corner upper ceiling sheeting	Material Application	Infill, Fibrous Cement	Extent:	1 m²	Sample Number	Similar to 02

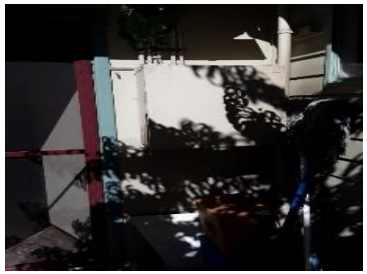
Main Photo	Close Up Photo			Material Score
		Product Type	Asbestos reinforced composites etc. (1)	2
		Condition	Good (0)	Risk
		Surface Treatment	Sealed (0)	Very Low
		Asbestos Type	Chrysotile (1)	
		Recommendation:	Manage	

Location:	Restaurant, External - S/W Corner upper sheeting	Material Application	Infill, Fibrous Cement	Extent:	1 m²	Sample Number	02

Main Photo	Close Up Photo		
		Product Type	Asbestos reinforced composites etc. (1)
		Condition	Good (0)
		Surface Treatment	Sealed (0)
		Asbestos Type	Chrysotile (1)
		Recommendation:	Manage

Material Score
2
Risk
Very Low

Location:	Restaurant, External - North side - wall sheet west side of back entrance - around electrical box	Material Application	Wall sheeting, Fibrous Cement	Extent:	3 m²	Sample Number	04

Main Photo	Close Up Photo		
		Product Type	Asbestos reinforced composites etc. (1)
		Condition	Good (0)
		Surface Treatment	Sealed (0)
		Asbestos Type	Chrysotile (1)
		Recommendation:	Manage

Material Score
2
Risk
Very Low

Location:	Restaurant, External - North side - Electrical backing board – electrical component	Material Application	Electrical component old ceramic fuse, Friction Material	Extent:	<1 m²	Sample Number	Assumed

Main Photo	Close Up Photo		
		**Product Type**	Asbestos reinforced composites etc. (1)
		Condition	Fair (1)
		Surface Treatment	Encapsulated asbestos textiles, gaskets, ropes and woven textiles, asbestos paper, card (1)
		Asbestos Type	Assumed Asbestos (3)
		Recommendation:	Remove

Material Score
6
Risk
Low

Location:	Katoomba Solitary Restaurant , Ground Floor - Reception	Material Application	Upper walls, Fibrous Cement	Extent:	12m²	Sample Number	Similar to 11

Main Photo	Close Up Photo		
No Photo Available	No Photo Available	**Product Type**	Asbestos reinforced composites etc. (1)
		Condition	Good (0)
		Surface Treatment	Sealed (0)
		Asbestos Type	Chrysotile (1)
		Recommendation:	Manage

Material Score
2
Risk
Very Low

Location:	Katoomba Solitary Restaurant , Ground Floor - Restaurant	Material Application	Upper walls, Fibrous Cement	Extent:	18 m²	Sample Number	Similar to 11

Main Photo	Close Up Photo		
No Photo Available	No Photo Available	**Product Type**	Asbestos reinforced composites etc. (1)
		Condition	Good (0)
		Surface Treatment	Sealed (0)
		Asbestos Type	Chrysotile (1)
		Recommendation:	Manage

Material Score
2
Risk
Very Low

Appendix E

Site Plan (no site plan available)

ASBESTOS

Asbestos: Description, Properties and Uses

Asbestos is the generic term given to a group of naturally occurring fibrous minerals, based on hydrated silicates, which are found in various rock formations. Differing ratios of oxygen, hydrogen, sodium, iron, magnesium and calcium elements account for several different types of asbestos minerals, the most common varieties being Amosite (brown asbestos), Chrysotile (white asbestos), Crocidolite (blue asbestos). Other types include Anthophyllite, Actinolite and Tremolite.

The immense popularity of asbestos as a building material is attributed to its near unique properties of fire resistance, high abrasion resistance and superb acoustical characteristics coupled with its relatively low cost. Prior to 1973, asbestos was the material of choice for fire proofing, thermal insulation, sound insulation and abrasion resistance. It was used as a spray-on insulation of ceilings and steel girders; as a thermal insulation of boilers, pipes, ducts, air conditioning units, etc; as an abrasion resistant filler in floor tiles, vinyl sheet floor coverings, roofing and siding shingles; as a flexible, though resistant joining compound and filler of textured paints and gaskets; as the bulking material with the best wear characteristics for automobile brake shoes and in countless domestic appliances such as toasters, grills, dishwashers, refrigerators, ovens, clothes dryers, electric blankets, hair dryers, etc.

Asbestos: Health Effects

Many asbestos bearing materials or products are of no significant health risk whatsoever when used in the normal course of events. A health risk exists when asbestos fibres are released into the air and when that air is inhaled into the lungs. Even then, it appears that most people exposed to relatively small amounts of asbestos do not develop any related health problems. There is however no "safe" level of asbestos exposure since the risk is dependent on numerous factors including the time since exposure, exposure duration and concentration, asbestos type, the attributes of the particular individual and environmental factors such as exposure to cigarette smoke and other airborne pollutants.

There are three main diseases associated with airborne asbestos fibres:

Asbestosis - A fibrosis (or scarring) of the lung associated with relatively massive exposure to asbestos.

Lung Cancer - Indistinguishable from that caused by smoking and a common cause of death. The risk of lung cancer is much higher when there is exposure to both cigarette smoking and to airborne asbestos.

Mesothelioma - A cancer of the chest and abdominal lining, it is specific to asbestos exposure.

A feature of these diseases is that symptoms take a long time to appear, generally 5 to 40 years. Once symptoms are evident the disease progresses rapidly.

There is some evidence that Chrysotile asbestos is less carcinogenic than Amosite, and that Amosite is less carcinogenic than Crocidolite in causing mesothelioma, but the evidence is less clear for lung cancer.

Measurement of Airborne Asbestos Fibres

The Work Health and Safety Regulations 2011 (NSW), and the Safe Work Australia Asbestos Codes of Practice & Guidance Note set the maximum allowable time weighted average for all forms of asbestos at 0.1 fibre/mL of air.

Air monitoring is used to determine airborne fibre levels. SLR is NATA certified for Asbestos Fibre Counting and Volume Measurement to carry out such monitoring.

The Safe Work Australia Code of Practice How to Safely Remove Asbestos 2011 states that air monitoring should be performed whenever Asbestos Containing Materials (ACM) are being removed, to ensure the control measures are effective.

The onus to provide a safe environment rests with persons in control of a business or undertaking, persons with management or control and persons carrying out demolition or refurbishment work. To meet these obligations it is recommended that SLR be engaged by the site controller, or their representative, and not an asbestos removal contractor as there could be a conflict of interest in the latter arrangement.

Asbestos Survey

Asbestos surveys are undertaken to identify any asbestos materials/hazards and assess the risk associated with the material/hazard.

Surveys are conducted through visual inspection by experienced personnel. During the inspection material samples are taken as appropriate for analysis.

Limitations

Due to the nature of the task all asbestos surveys are limited. Since asbestos can occur in so many forms and in so many locations, and as there is no instrument to detect asbestos, it is never possible to guarantee all asbestos has been identified. Access is usually restricted, and there may be asbestos hidden behind walls or other structures. Building plans are of great assistance to consultants undertaking surveys.

Asbestos Register

An asbestos register is a record of the location, type and condition of all asbestos containing products identified in a building. Under the Safe Work Australia Codes of Practice and the legislation, any place of work constructed prior to 31 December 2003 must have an Asbestos Register. A SLR Asbestos Survey Report includes an asbestos register.

Registers must be maintained and changes in the condition or extent of any asbestos present should be recorded. Registers should also detail the next review date, at present annually since the condition of asbestos materials, legislation, guidelines and standards change.

Management Plan

An asbestos management plan is required where asbestos materials have been identified and are to remain on site. The plan would normally be a component in the overall Hazard Management Plan for the site.

Control Options

Asbestos judged to constitute a health risk should be removed, enclosed or encapsulated by an approved asbestos contractor.

Enclosure

This involves the installation of a permanent, solid, non-porous, impervious barrier between the asbestos material and the surrounding environment. Examples include building boxes around steam pipes etc. A suspended ceiling is not permanent and, since occasional access is necessary above a suspended ceiling, enclosure is negated. Furthermore, many suspended ceilings act as return air plenums so enclosure is impossible.

Encapsulation

Encapsulation involves coating the material with a sealant. Good sealants penetrate through the asbestos material to the substrate. The encapsulating substance then hardens and binds all the asbestos fibres into a solid matrix. This is usually a short to medium term management option.

Removal

Removal is not without hazards to the occupants of the building. If not strictly controlled, the removal process can result in increased fibre counts in other areas. Technical competence, experience and integrity are of prime importance in evaluating asbestos removal plans.

We advise clients to work within the usual practised time frames of the experienced asbestos removal companies under strict supervision by a qualified person. Pressing for quicker turnaround times may result in low quality workmanship and unnecessary asbestos risk. Building owners may be in part responsible for risks created by the removal Contractor due to carelessness or negligence.

An independent consultant such as SLR, experienced in the supervision of asbestos removal, should be retained to act on the client's behalf.

Clearance Inspection

A clearance inspection must be conducted at the completion of asbestos removal works. The clearance inspection may include airborne asbestos monitoring and/or sampling/analysis of materials and should be completed by a suitably qualified and experienced consultant, such as SLR.

ASBESTOS CEMENT SHEETING

A large number of building products used in the building and construction industry have been made with asbestos and cement. Products include:

- Flat or corrugated, compressed sheeting
- Pipes for water, drainage, flues

- Roof shingles
- Building boards eg Villaboard, Hardiflex, Wundaboard, Flexiboard
- Cable trays for electrical wiring
- Numerous preformed items such as cisterns, protective housings, etc

Provided these products are maintained in good condition, they present no health risk, however precautions must be observed during demolition, refurbishment etc.

Licensing Requirements

Asbestos-containing products are classified as **non-friable** or **friable**. **Asbestos cement** is classified as **non-friable asbestos** however once it is significantly broken, crushed or otherwise damaged WorkCover NSW may consider it to be friable asbestos. The rules governing friable asbestos are far more stringent.

A WorkCover NSW asbestos licence is required to remove 10 square metres or more of non-friable asbestos and there must be WorkCover NSW notification.

Anyone wishing to carry out friable asbestos removal must obtain a friable asbestos removal licence from WorkCover NSW. A friable asbestos removal permit must be obtained for all friable asbestos jobs.

ASBESTOS CONTAINING VINYL TILES

Vinyl tiles which contain asbestos are considered to be of minimal risk whilst undisturbed and in good condition. The asbestos contained within vinyl tiles is well bound in the parent matrix and fibre release is virtually impossible provided the tiles are not ground, drilled, or otherwise abraded. Normal floor cleaning operations will not release asbestos fibres.

If the tiles are intact and not abraded or drilled etc it is safe to leave them *in-situ*. However, prior to demolition and/or refurbishment all asbestos containing vinyl tiles in the work area must be removed in accordance with the Work Health and Safety Regulations 2011 (NSW) and the Safe Work Australia Asbestos Codes of Practice.

Air Monitoring

The Safe Work Australia Code of Practice How to Safely Remove Asbestos 2011 states that air monitoring should be performed whenever Asbestos Containing Materials (ACM) are being removed, to ensure the control measures are effective.

All air monitoring must be completed by a NATA accredited organisation as specified in the Work Health and Safety Regulations 2011 (NSW)

Asbestos fibres are generally well bound in the vinyl matrix and fibre release is unlikely provided the tiles are not ground, drilled or similarly disturbed.

Note:

These are general recommendations. In all cases the asbestos removalist should be familiar with, and comply with, the relevant Codes of Practice and the Work Health and Safety Regulations 2011 (NSW). There may also be site specific requirements which should be complied with.

CORRUGATED ASBESTOS CEMENT ROOFING

Deterioration Mechanisms

Asbestos cement roofs deteriorate slowly over time. The upper surface exposed to the elements slowly loses cement binder and asbestos fibres become increasingly exposed. This may result in excessive fibre loss and a general weakening of the roof materials which will eventually become porous.

The process of natural weathering may be compounded by exposure to steam, acid fumes and other agents from industrial processes, resulting in accelerated deterioration of the roof.

Hail, heavy rain and other storm activity can cause also significant problems including:

- Cracks and/or penetrations in asbestos cement panels, and resultant generation of asbestos cement dust/debris.
- Shedding of asbestos fibres which may contaminate runoff and enter gutters and drains etc.
- Blocking of gutters with hail and other debris resulting in overflow and asbestos contamination of surrounding areas.

In most situations the underside of AC roofs exhibit very little deterioration however asbestos containing dust can accumulate on the roof support structure and other exposed locations below/around the roof.

If an asbestos cement roof becomes significantly damaged, weathered and or produces visible dust or significant debris it is likely that health and safety management works will be required. A suitably qualified and experienced consultant, such as SLR, can advise and assist in carrying out such works.

Life Expectancy and Maintenance

AC roofs in good condition may remain in place indefinitely providing certain precautions are taken.

- On no account may high pressure water be used to clean AC roofs. This is forbidden under the Safe Work Australia asbestos codes of practice as it can result in widespread contamination.
- AC roofs may not be drilled, ground, cut or otherwise damaged as this may result in the release of airborne asbestos fibres.
- In general, roofs are best left undisturbed if in good condition. There are however several sealing compounds which may be used on AC roofs. The underside of AC roofs may be encapsulated, shielded with sarking or enclosed with a fixed ceiling or other materials. Enclosures are fixed, permanent, non-porous barriers that prevent fibre penetration. All barriers need to be maintained.
- The roof including internal support structure should inspected regularly (eg at least once a year) by a suitably qualified and experienced consultant such as SLR to assess the condition and extent of the asbestos materials present.
- Gutters and down pipes should be kept clean and in good condition. Some gutters may accumulate a build up of debris which contains asbestos; this is best removed by an experienced licensed asbestos removal contractor.
- Down pipes etc should be protected from damage by forklifts and other vehicles via the installation of appropriate barriers.
- Damaged sections of asbestos containing material should be removed as soon as possible by an experienced licensed asbestos removal contractor. It is illegal to re-use asbestos containing materials.
- As a precautionary measure any exposed broken edges of asbestos material temporarily remaining in place should be sealed with an appropriate sealant such as Emerclad paint.

Demolition

Demolition of AC roofs should only be undertaken by an experienced licensed Asbestos Removal Contractor.

It is recommended that asbestos removal supervision, air-monitoring and clearance inspections be undertaken by an independent, suitably qualified and experienced asbestos consultant such as SLR.

ASBESTOS CONTAINING FIRE DOORS

The cores of older fire doors frequently contain asbestos materials. Such doors may remain in place provided certain precautions are taken. These include:

- Labelling the doors with appropriate warning signs that advise of the asbestos risk.
- Not drilling or otherwise disturbing the doors so as to release airborne asbestos fibres.
- Recording the location, extent and condition of the doors in the site Asbestos Register and addressing them in the site Asbestos Management Plan. A copy of the Asbestos Register and Management Plan should be held by the Building Manager who is to ensure that no work is carried out on the doors without their prior knowledge and the implementation of adequate health and safety precautions.
- Regular inspection and reporting of the condition of the doors.

If the fire doors are damaged then access to the area is to be appropriately restricted and advice sought from a suitably qualified and experienced consultant such as SLR.

Any asbestos removal and/or remediation/decontamination work should be undertaken by a licensed Asbestos Removal Contractor.

LEAD

Lead contamination comes from numerous different sources. Common sources include lead-containing paint, putties, leaded petrol and lead flashing.

Lead is absorbed by ingestion, inhalation and directly through the skin. The finer the particle size the more readily it is absorbed. As a result, some lead compounds are more readily absorbed than others. High lead exposure can cause death, however far lower exposures can also cause a number of adverse consequences, including a reduction in IQ, particularly in children.

Lead containing materials should be managed in accordance with the Work Health and Safety Regulations 2011 (NSW)the *National Standard for the Control of Inorganic Lead at Work* [NOHSC:1012(1994)], the *National Code of Practice for the Control and Safe Use of Inorganic Lead at Work* [NOHSC:2015(1994)] and other relevant standards and guidelines as outlined below.

Acceptable Levels

There are numerous standards but application to particular situations is not always clear.

Paint

In 1969 the National Health and Medical Research Council (NH&MRC) introduced the Uniform Paint Standard which banned the use of white lead for domestic buildings and placed a limit on other forms of lead (usually in the form of dryers) in such paints of 1% (by weight on the dry weight). In March 1992 this limit was lowered to 0.25% and has more recently been reduced even further in domestic paints as outlined in Appendix I (the letter not the number) of Standard for the Uniform Scheduling of Drugs and Poisons No 20, 2005 published by Australian Therapeutic Goods Administration under the Therapeutic Goods Act 1989. It is therefore common to find up to 1% lead in paint especially in glossy paints. There is no limit on the lead content of old paint finishes.

Moderate lead levels (less than 4%) are generally not considered an immediate health risk if the paint is in good condition and not likely to be damaged or accessible to children who might chew the paint etc. Removal of such paint however poses a health risk if it is not adequately controlled.

Paints of 1% or more lead content are generally considered to be lead containing; however the dry sanding of paints with even 0.25% lead can result in the release of unacceptable levels of lead containing dust.

Australian Standards AS 4361.1-1995 Guide to lead paint management Part 1: Industrial Applications and AS 4361.2-1998 Guide to lead paint management Part 2: Residential and Commercial Buildings provide guidance for the management of lead paint, information on lead paint testing and selection of an appropriate management strategy.

There is a duty of care to ensure that workers and building occupants are not exposed to excessive lead levels. Young children are particularly at risk.

Dust

Lead in dust is of particular concern because it is easily disturbed and frequently in the form of very fine particles which are more readily absorbed by the human body.

The NH&MRC (National Health & Medical Research Council) has not set guidance concentration levels for lead in dust. Australian Standard AS 4361.2-1998 Guide to lead paint management Part 2: Residential and Commercial Buildings, does not offer any general guidance on lead levels in dust but it does provide acceptable surface-dust lead concentrations after lead paint management activities. The acceptance levels for surface dust are:

- Interior floors 1 mg/m² (as lead)
- Interior window sills 5 mg/m² (as lead)
- Exterior surfaces 8 mg/m² (as lead)

The National Environment Protection (Assessment of Site Contamination) Measure (NEPM) 1999 Guideline on the Investigation Levels for Soil and Groundwater sets a limit of 300 ppm lead in soils for “standard” residential land-use. This limit is based on both Human Health and Environmental considerations.

Air

The NOHSC (National Occupational Health & Safety Commission) maximum allowable TWA (Time Weighted Average) concentration for airborne lead (inorganic dusts and fumes) is 0.15 mg/m³, however some lead compounds have lower levels. The ACGIH (American Conference of Governmental Industrial Hygienists have adopted a Threshold Limit Value (Time Weighted Average) of 0.05 mg/m³ for lead and inorganic lead compounds as lead.

Metallic Lead

Metallic lead or solder containing lead should not be ground, scraped, sanded, melted or otherwise disturbed to produce lead dust or vapours without undertaking appropriate procedures and precautions. Procedures and precautions may include the use of appropriate personal protective equipment (PPE) and control measures to ensure that personnel are not exposed to lead and there is no contamination of surrounding areas.

Control Measures

When high lead levels are encountered control measures should be put in place which are appropriate to the particular situation, in many cases this may consist of a few simple low cost precautions, in some cases removal by experienced contractors working to detailed procedures with air monitoring and independent supervision is required.

The disposal of lead contaminated material should be in accordance with current legislation and guidance.

SLR can provide expert advice, air monitoring, sampling and project management on lead related issues.

PCBs (POLYCHLORINATED BIPHENYLS)

Description, Properties and Uses

PCBs is an abbreviation for Polychlorinated Biphenyls, a group of synthetic chlorinated organic compounds commonly used as non-flammable oils in electrical equipment.

PCBs were commonly used as insulators in electrical capacitors and transformers but were also used in a wide range of other products that took advantage of their stability. Normally the PCBs are held in a metal container carrying no label signifying PCB content.

Small PCB filled capacitors were fitted to electric motors, welders, and fluorescent lights. Typically they are small metal containers holding about 50 millilitres of PCB. Large oil cooled transformers may contain many litres of PCBs.

Health Hazard of PCBs

PCBs are suspected human carcinogens and are a serious health problem due to their persistence in the environment, their potential for chronic or delayed toxicity and their accumulation in human and animal tissues. They can enter the body in three ways; by absorption through the skin, by inhalation of the vapour of heated PCBs (not a problem at room temperature), and by swallowing contaminated food or drink. Once PCBs are in the body they tend to lodge in the body fat and stay there for a considerable time.

Exposure to PCBs can cause a range of health problems whose effects increase with the duration of exposure and concentration levels.

PCBs are proven animal carcinogens and suspected human carcinogens. The results of exposure may include liver damage, respiratory disorders, chloracne (a severe skin rash), eczema and skin discolouration. PCBs have also been associated with thyroid gland disorders, muscle and joint pain, headaches, nausea, loss of appetite, abdominal pain, and are potentially related to reproductive problems in humans. Pregnant women should avoid PCB polluted areas.

PCB liquid and vapour is moderately irritating to the eyes.

Collection, Transport and Disposal

PCBs must be handled with care. They are very penetrating and will pass through some types of plastic gloves. When collecting PCBs appropriate personal protective equipment (PPE) must be worn.

PCBs are assumed to be present in fluorescent light fittings unless inspection indicates otherwise. Removal requires the following:

- Prior to demolition when the power is disconnected inspect the light fittings.
- Metal PCB containing capacitors are to be removed, placed in plastic lined 200 Litre drums, sealed and disposed of as PCB Scheduled Waste. Any light fittings that show signs of oil staining from capacitors are to be disposed of as PCB contaminated waste.
- Protective clothing including PCB resistant gloves to be worn.
- Contaminated gloves and disposable coveralls to be disposed of as PCB contaminated waste.
- PCBs are covered by a Chemical Control Order under the Environmentally Hazardous Chemicals Act 1985. The labelling, storage, transport and disposal of PCBs is highly regulated, and professional advice should be sought on how to deal with these materials.
- Contractors licensed to transport and handle PCBs must be used for transport and disposal.

Register and Management Plan

The Environment Protection & Heritage Council's *Polychlorinated Biphenyls Management Plan, Revised Edition April 2003* requires that a risk-based strategy for equipment containing PCBs be adopted. The elements of this strategy are surveying, testing and removal of identified high risk equipment. **There is a timetable by which surveys are to be completed**.

Property owners and managers should have a PCB register. This could form part of their Hazardous Materials Register for the site. Where PCBs are identified a PCB Hazard Management Plan should be in place. This could be a part of the Hazardous Materials Management Plan for the site.