



Asbestos Inspections Australia Pty Ltd

ABN 13 114 929 930

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Level 5, 203 New South Head Road, Edgecliff, NSW, 2027
Phone: 9363 1055 Fax: 9388 2423 DX 12052 Bondi Junction

Asbestos Inspection Report



Property: Address deleted

Client: Name deleted
Address deleted

Date of Inspection: 10 July 2008

Date of Report: 15 July 2008

EXECUTIVE SUMMARY

Address deleted

Purpose

Asbestos Inspections Australia Pty Ltd was contacted by *Name deleted*, the owner of *Address deleted*, with instructions to undertake an Asbestos Inspection of the property to identify any asbestos-containing materials at the property and to advise on the condition of, and control recommendations for, any asbestos-containing materials that may be present.

An inspection of the property was undertaken by David Drexler from Asbestos Inspections Australia Pty Ltd on 10 July 2008.

Scope

The survey comprised a visual inspection of accessible areas at the property.

Name deleted advised that the following work will be carried out at the property:

1. Demolition of the rear wall to the building at first floor level;
2. Construction of an extension to the rear of the building at first floor level;
3. Internal alterations and additions.

Findings

The inspection identified the following types of asbestos-containing materials:

- Asbestos cement sheeting.

All inaccessible areas at this property, including but not limited to wall cavities, between floors, inside skillion roofing and inside the eaves; areas behind or concealed by fixed ceilings, wall linings, floor coverings, fixtures, fittings, furniture, clothes, stored articles/materials, thermal insulation, sarking, pipe/duct work, builders debris, vegetation, pavements or earth; integral parts of boilers, pumps, machinery, plant and pipework and reheat units within air conditioning ducts; cores to fire doors; areas accessible only through manholes and trapdoors where these are locked or otherwise not readily accessible and areas located in rooms such as garages or laundries which are locked or also otherwise inaccessible at the time of our inspection, are presumed to contain asbestos-containing materials in accordance with Section 9.2 *Presuming that materials contain asbestos* of the Australian Safety and Compensation Council Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)].

Recommendations

General recommended control actions for identified asbestos-containing materials include:

- Avoid mechanical damage and abrasion to the asbestos-containing material;
- Remove the asbestos-containing material;

- Confirm that the suspected asbestos-containing material contains asbestos by sampling and laboratory analysis prior to removal;
- Restrict access to the asbestos-containing material.

All works and actions recommended in the Control Recommendations in the Asbestos Register should be carried out in accordance with the Australian Safety and Compensation Council Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)] and the Australian Safety and Compensation Council Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)].

Removal of asbestos-containing materials must be carried out by appropriately licensed asbestos removal contractors in accordance with the Occupational Health and Safety Regulation 2001 and the Australian Safety and Compensation Council Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)].

Asbestos-containing materials should be removed from areas in which refurbishment, structural alteration or demolition is to be carried out.

The Asbestos Inspection Report and Asbestos Register compiled for the property at *Address deleted* as a result of the inspection should be kept on site.

Any tradesmen working in or on the building should be provided with a copy of the Asbestos Inspection Report and Asbestos Register prior to carrying out any work on the building. Please note that only appropriately licensed and accredited tradesmen should be allowed to undertake any work on asbestos-containing materials. All work carried out to asbestos-containing materials should be carried out in accordance with the Australian Safety and Compensation Council Code of Practice for the Safe Removal of Asbestos 2nd edition [NOHSC:2002(2005)].

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INTRODUCTION

Asbestos Inspections Australia Pty Ltd was contacted by *Name deleted*, the owner of *Address deleted*, with instructions to undertake an Asbestos Inspection of the property to identify any asbestos-containing materials at the property and to advise on the condition of, and control recommendations for, any asbestos-containing materials that may be present.

An inspection of the property was undertaken by David Drexler from Asbestos Inspections Australia Pty Ltd on 10 July 2008.

Room names in this report refer to the names stated on the plans for the existing building.

Scope of Work

The Asbestos Survey included visual inspection of the following areas:

1. Exterior and roof to the building(s);
2. All interior rooms in the building(s);
3. All accessible roof and ceiling spaces in the building(s);
4. All accessible subfloor areas to the building(s);
5. All accessible electrical meter boxes and panels to the building(s);
6. All accessible hot water systems;
7. All grounds to the property.

Any normally accessible areas of the building which were not accessible at the time of the inspection are noted in the Asbestos Register.

The survey comprised a visual inspection of accessible and representative construction materials at the property.

Name deleted advised that the following work will be carried out at the property:

1. Demolition of the rear wall to the building at first floor level;
2. Construction of an extension to the rear of the building at first floor level;
3. Internal alterations and additions.

The following work had previously been carried out to the property by others:

1. Demolition of the rear walls to the building at ground floor level;
2. Removal of sections of the wall linings in the entry/hallway;
3. Removal of sections of the floor in the lounge room;
4. Removal of sections of the floor in bedroom 3 (right hand side);
5. Removal of the wall between the kitchen and dining room;

6. Removal of sections of the wall linings in the kitchen;
7. Removal of the ceiling in the kitchen;
8. Removal of sections of the floor to the kitchen;
9. Removal of the fixtures and fittings in the kitchen;
10. Removal of the ceiling in the dining room;
11. Removal of the wall between the dining room and bathroom;
12. Removal of the wall linings in the bathroom;
13. Removal of the ceiling in the bathroom;
14. Removal of the floor to the bathroom;
15. Removal of the fixtures and fittings in the bathroom;
16. Demolition of the first floor rear balcony;
17. Removal of the skirting boards and door frames throughout the building.

Site Description

The property at *Address deleted* comprises a two level fibre cement and timber weatherboard building with a metal roof.

There is a metal-framed carport with a metal roof to the rear of the property.

Methodology

The Asbestos Survey was undertaken considering a risk management approach, in accordance with best practice, State Government Legislation and Australian Safety and Compensation Council Codes of Practice and Guidance Notes.

The site was visually inspected for asbestos in accordance with the guidelines documented in the Australian Safety and Compensation Council Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)]. Our professional judgement and experience was used in the identification and location of materials suspected of containing asbestos in accessible and representative areas.

Representative sampling is defined as one like sample per consistent material type, situation or item. In these instances only one test sample will be collected for analytical confirmation and the results expressed as consistent and typical of the building.

Small representative samples of materials were collected in plastic bags with clip-lock seals or in specimen containers. Only 'typical' suspected asbestos-containing material occurrences are inspected and sampled.

Samples collected are representative of the material sampled, individually identified, transported, analysed and reported in accordance with Australian Safety and Compensation Council Guidelines, relevant Statutory Regulations, Codes of Practice and Asbestos Inspections Australia Pty Ltd safe work practices.

The samples were analysed for asbestos using polarised light microscopy and dispersion staining techniques in the Envirolab Services Pty Ltd NATA accredited laboratory at 12 Ashley Street, Chatswood.

Where the laboratory analysis determines that no asbestos is detected in a sample, the sample is listed in the Report to provide information for future inspections.

Presumptions, based on building knowledge and experience, that inaccessible areas contain asbestos-containing materials may also be made and stated within the Asbestos Register.

Areas Not Accessible / Not Inspected

Practicable access to and inspection of the following areas is not typically available at the time of the site inspection:

- Inaccessible roof and ceiling spaces;
- Inside skillion roofs and inside the eaves;
- Inaccessible subfloor areas and between floors;
- Wall cavities, within internal wall partitioning and in areas behind or concealed by fixed wall linings;
- Areas behind or concealed by floor coverings;
- Areas behind or concealed by fixtures, fittings, furniture and stored articles/materials;
- Areas behind or concealed by insulation;
- Areas behind or concealed by sarking;
- Areas behind or concealed by pipework and ductwork;
- Areas behind or concealed by builder's debris;
- Areas behind or concealed by vegetation or earth;
- Areas behind or concealed by pavements;
- Voids;
- Gaskets, mastics, sealants and integral parts to pipework, ductwork, pumps, boilers, air conditioning equipment, reheat units within air conditioning ducts, plant equipment and mechanical equipment;
- Cores to fire doors;
- Construction and expansion joints.

Should refurbishment, structural alteration, demolition or maintenance operations involve possible disturbance of materials in the above locations, further investigation and sampling should be carried out as part of an asbestos management and abatement plan prior to any works proceeding.

Requirements and Recommendations

All works and actions recommended in the Control Recommendations in the Asbestos Register should be carried out in accordance with the Australian Safety and Compensation Council Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)] and the Australian Safety and Compensation Council Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)].

Asbestos-containing materials should be removed from areas in which refurbishment, structural alteration or demolition is to be carried out.

Removal of asbestos-containing materials must be carried out by appropriately licensed asbestos removal contractors in accordance with the Occupational Health and Safety Regulation 2001 and the Australian Safety and Compensation Council Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)].

Materials that have not been sampled for laboratory analysis for asbestos identification and which are presumed to contain asbestos should be sampled prior to refurbishment, structural alteration or demolition in order to confirm the presence of asbestos.

The Asbestos Inspection Report and Asbestos Register compiled for the property at *Address deleted* as a result of the inspection should be kept on site.

Any tradesmen working in or on the building should be provided with a copy of the Asbestos Inspection Report and Asbestos Register prior to carrying out any work on the building. Please note that only appropriately licensed and accredited tradesmen should be allowed to undertake any work on asbestos-containing materials. All work carried out to asbestos-containing materials should be carried out in accordance with the Australian Safety and Compensation Council Code of Practice for the Safe Removal of Asbestos 2nd edition [NOHSC:2002(2005)].

Asbestos Inspection Report

Address deleted

APPENDIX A: ASBESTOS REGISTER

HOW TO READ THE ASBESTOS REGISTER

- ❑ The findings of the Report are contained in this appendix: Asbestos Register.
- ❑ The table below provides information on the layout and the information contained in the Asbestos Register.
- ❑ Further information is contained in Appendix B: Definition of Terms.

Location Item or Material Description Comments	Sample ID	Asbestos Type	Condition	Friability	Disturbance Potential / Accessibility	Risk Assessment Risk Rating	Quantity	Photo No.
Control Recommendation								
Control Recommendation								
Control Recommendation								
Control Recommendation								

Details of the location and descriptive information for each asbestos-containing material.

The sample ID refers to the Request for Analysis and Chain of Custody in Appendix C and the Certificate of Analysis from Envirolab Services Pty Ltd in Appendix D.

This column identifies if the material contains asbestos.

Further information regarding Asbestos Type is contained in the Definition of Terms in Appendix B.

These four columns identify the risk assessment factors and risk rating associated with the asbestos-containing material.

Further information regarding the risk assessment factors and risk rating is contained in the Definition of Terms in Appendix B and in Appendix C.

Refers to the photograph of the asbestos-containing material included in Appendix I.

Identifies the control recommendation for each asbestos-containing material.

Provides an estimate of the quantity of asbestos-containing material. Further information regarding Quantity is contained in the Definition of Terms in Appendix B.

ASBESTOS REGISTER

Asbestos-containing materials are present on the property at the following locations.

Location Item or Material Description Comments	Sample ID	Asbestos Type	Condition	Friability	Disturbance Potential / Accessibility	Risk Assessment Risk Rating	Quantity	Photo No.
Exterior								
Fibre cement sheeting to the left hand side and right hand side walls to the building, including behind the timber weatherboards to the right hand side wall to the exterior of the bathroom. Cracked and damaged behind the timber weatherboards to the right hand side wall to the exterior of the bathroom and around the duct and vent penetration to the left hand side wall to the exterior of the kitchen.	Reference-1	Chrysotile and crocidolite.	Poor	Non friable	High	High	40m ²	1, 2
Control Recommendation	Remove damaged sections as soon as practicable. Avoid further mechanical damage and abrasion. Remove remaining asbestos-containing materials if refurbishment, structural alteration or demolition is to be carried out in this area. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Exterior								
Fibre cement sheet fragments to the timber framework to the rear wall to the building to the right hand side of the kitchen. Cracked and damaged.	Similar to Reference-1	Similar positive	Poor	Non friable	High	High	Less than 1m ²	3
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Roof								
Fibre cement eaves to the left hand side and right hand side of the roof.	Similar to Reference-1	Similar positive	Good	Non friable	Low	Low	10m ²	4
Control Recommendation	Avoid mechanical damage and abrasion. Remove if refurbishment, structural alteration or demolition is to be carried out in this area. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Roof								
Fibre cement eaves to the front and rear of the gabled roof.	Reference-2	Chrysotile	Good	Non friable	Low	Low	12m ²	12
Control Recommendation	Avoid mechanical damage and abrasion. Remove if refurbishment, structural alteration or demolition is to be carried out in this area. Implement regular inspections, at least annually, or earlier if disturbed or removed.							

Location Item or Material Description Comments	Sample ID	Asbestos Type	Condition	Friability	Disturbance Potential / Accessibility	Risk Assessment Risk Rating	Quantity	Photo No.
Entry / Hallway								
No asbestos-containing materials were evident in the entry/hallway.								
Bedroom 2 (Ground Floor Front Right Hand Side)								
No asbestos-containing materials were evident in bedroom 2.								
Bedroom 3 (Ground Floor Right Hand Side)								
No asbestos-containing materials were evident in bedroom 3.								
Lounge Room (Ground Floor Left Hand Side)								
No asbestos-containing materials were evident in the lounge room.								
Kitchen								
Fibre cement sheeting to the left hand side wall to the building, the inside surface of which is visible in the kitchen. Cracked and damaged around duct and vent penetrations.	Similar to Reference-1	Similar positive	Poor	Non friable	High	High	6m ² visible	6
Control Recommendation	Remove damaged sections as soon as practicable. Avoid further mechanical damage and abrasion. Remove remaining asbestos-containing materials if refurbishment, structural alteration or demolition is to be carried out in this area. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Kitchen								
Fibre cement sheeting and fragments to the timber framework to the left hand side, right hand side and rear walls in the kitchen, including around the nails Cracked and damaged.	Reference-3	Chrysotile	Poor	Non friable	High	High	1m ²	7, 8, 9, 10
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							

Location Item or Material Description Comments	Sample ID	Asbestos Type	Condition	Friability	Disturbance Potential / Accessibility	Risk Assessment Risk Rating	Quantity	Photo No.
Kitchen								
Fibre cement sheeting between the timber framework to the left hand side wall in the kitchen. Cracked and damaged.	Similar to Reference-1	Similar positive	Poor	Non friable	High	High	1m ²	11
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Kitchen								
Fibre cement sheeting and fragments to the ceiling joists in the kitchen, including around the nails. cracked and damaged.	Similar to Reference-3	Similar positive	Poor	Non friable	High	High	Less than 1m ²	12
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Kitchen								
Fibre cement sheet fragments on the floor adjacent to the rear wall in the kitchen. Cracked and damaged.	Similar to Reference-3	Similar positive	Poor	Non friable	High	High	Less than 1m ²	-
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Dining Room								
No asbestos-containing materials were evident in the dining room.								
Bathroom								
Fibre cement sheeting behind the timber weatherboards to the right hand side wall to the building, the inside surface of which is visible in the bathroom. Cracked and damaged.	Reference-1	Chrysotile and crocidolite.	Poor	Non friable	High	High	12m ²	2
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							

Location Item or Material Description Comments	Sample ID	Asbestos Type	Condition	Friability	Disturbance Potential / Accessibility	Risk Assessment Risk Rating	Quantity	Photo No.
Bathroom								
Fibre cement sheet fragments on the horizontal timber framework to the right hand side wall in the bathroom. Cracked and damaged.	Similar to Reference-1	Similar positive	Poor	Non friable	High	High	Less than 1m ²	13
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Bathroom								
Fibre cement sheet packing (spacers) between the window and wall frame in the bathroom. Cracked and damaged.	Similar to Reference-1	Similar positive	Poor	Non friable	High	High	Less than 1m ²	14
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Stairway								
No asbestos-containing materials were evident to the stairway.								
Family Room (First Floor Front)								
Compressed fibre cement sheeting under the brick hearth to the fireplace in the family room.	-	Presumed	Good	Non friable	Low	Low	1m ²	15
Control Recommendation	Avoid mechanical damage and abrasion. Confirm that material contains asbestos by sampling and laboratory analysis prior to removal. Remove if refurbishment, structural alteration or demolition is to be carried out in this area. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Family Room (First Floor Front)								
Fibre cement sheeting on the first floor front balcony to the family room. Cracked and damaged.	-	Presumed	Poor	Non friable	Medium	Medium	Less than 1m ²	16
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							

Location Item or Material Description Comments	Sample ID	Asbestos Type	Condition	Friability	Disturbance Potential / Accessibility	Risk Assessment Risk Rating	Quantity	Photo No.
Family Room (First Floor Front)								
Access to the cupboards to the left hand side and right hand side of the doors to the front balcony in the family room was not available at the time of the inspection. The cupboards were locked.								
Main Bedroom (First Floor Rear)								
No asbestos-containing materials were evident in the main bedroom.								
Ensuite Bathroom adjoining Main Bedroom								
There may be compressed asbestos cement sheeting under the floor tiles in the ensuite bathroom. The floor under the floor tiles is not visible.								
Left Hand Side Roof Space								
No asbestos-containing materials were evident in the left hand side roof space.								
Right Hand Side Roof Space								
No asbestos-containing materials were evident in the right hand side roof space.								
Subfloor								
Fibre cement sheet fragments on the ground in the subfloor under the front veranda. Cracked and damaged.	Similar to Reference-1	Similar positive	Poor	Non friable	Medium	Medium	Less than 1m ²	-
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Subfloor								
Fibre cement sheeting on the ground in the subfloor under the kitchen. Cracked and damaged.	Similar to Reference-1	Similar positive	Poor	Non friable	High	High	Less than 1m ²	17
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							

Location Item or Material Description Comments	Sample ID	Asbestos Type	Condition	Friability	Disturbance Potential / Accessibility	Risk Assessment Risk Rating	Quantity	Photo No.
Subfloor								
Fibre cement sheet packing (spacers) between the piers and bearers in the subfloor under the lounge room. Cracked and damaged.	Similar to Reference-1	Similar positive	Poor	Non friable	High	High	Less than 1m ²	18
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Electrical Meter Box								
Fibre cement sheeting to the rear wall in the electrical meter box. Cracked and damaged. It is likely that the dust and debris in the electrical meter box are contaminated with asbestos. This presents a significant risk of inhalation of airborne asbestos fibres to persons utilising the electrical meter box. The dust and debris in the electrical meter box should be presumed to contain asbestos and should be removed as soon as practicable. Restrict access to the electrical meter box.	Similar to Reference-1	Similar positive	Poor	Non friable	Low	Medium	1m ²	19
Control Recommendation	Remove or seal as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							
Hot Water System								
No asbestos-containing materials were evident to the hot water system.								
Carport								
No asbestos-containing materials were evident to the carport.								
Grounds								
Fibre cement sheeting on the ground to the right hand side of the building at the exterior of the bathroom. Cracked and damaged.	Similar to Reference-1	Similar positive	Poor	Non friable	High	High	Less than 1m ²	20
Control Recommendation	Remove as soon as practicable. Avoid further mechanical damage and abrasion. Implement regular inspections, at least annually, or earlier if disturbed or removed.							

Fieldwork by:



David Drexler

Occupational Hygienist
Graduate Certificate of Occupational Hygiene (Deakin Uni)
Bachelor of Arts (University of Sydney)
Certified Asbestos Removalist (TAFE NSW)

Written/Submitted by:



David Drexler

Occupational Hygienist
Graduate Certificate of Occupational Hygiene (Deakin Uni)
Bachelor of Arts (University of Sydney)
Certified Asbestos Removalist (TAFE NSW)

Reviewed/Approved by:



Dr Brian Crawford

Occupational Hygienist
Doctor of Philosophy (UNSW)
Master of Science (UNSW)
Bachelor of Science (Hons.) (UNSW)
A.S.T.C. (Sydney Technical College)

Asbestos Inspection Report

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APPENDIX B: DEFINITION OF TERMS

DEFINITION OF TERMS

□ This section contains information required to interpret the Asbestos Register.

Location: Item or Material Description: Comments:	Details of the location of the asbestos-containing material. Description of the asbestos-containing material. Other information regarding the asbestos-containing material.
Sample ID:	The sample number refers to the Request for Analysis and Chain of Custody (Appendix C) and the Certificate of Analysis from Envirolab Services Pty Ltd (Appendix D). Materials reported as "Similar to" are based on a visual inspection and comparison to a sample taken for laboratory analysis.
Asbestos Type:	Chrysotile: Chrysotile (white) asbestos is present in the material. Amosite: Amosite (brown) asbestos is present in the material. Crocidolite: Crocidolite (blue) asbestos is present in the material. Similar Positive: The material was not sampled, however it is similar to another material at the property that was sampled and which contains asbestos. Similar Negative: The material was not sampled, however it is similar to another material at the property that was sampled and which does not contain asbestos. Presumed: Presumed to contain asbestos – The material was not sampled and is presumed to contain asbestos in accordance with Section 9.2 <i>Presuming that materials contain asbestos</i> of the Australian Safety and Compensation Council Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)].
Condition:	Good: Good condition – Asbestos-containing materials with no signs of damage and/or deterioration of material. Moderate: Moderate condition – Asbestos-containing materials with minor signs of damage and/or deterioration, including but not limited to minor cracking, minor damage, minor wear and tear and holes. Poor: Poor condition – Asbestos-containing materials with a significant amount of damage and/or deterioration of material, or that the material is unserviceable for its intended use. This includes but is not limited to significant cracking and other mechanical and physical damage, weathering and water damage.
Friability:	Friable: Friable asbestos-containing material – An asbestos-containing material which, when dry, is or may become crumbled, pulverised or reduced to powder by hand pressure. Note: This may include asbestos-containing materials that have been subjected to conditions that leave them in a state where they meet the above definition, such as weathering, physical damage, water damage, etc. Non friable: Non friable asbestos-containing material – An asbestos-containing material typically comprised of asbestos fibres bound in a stable non-asbestos matrix, including but not limited to cement, vinyl and resin. Also commonly know as bonded asbestos-containing materials and include asbestos cement products, vinyl tiles and pitch-based electrical backing boards.

Disturbance Potential / Accessibility:	<p>Low: Low disturbance potential/accessibility – Asbestos-containing materials that are not easily accessible and/or are not in locations in which they are likely to sustain damage and/or are exposed to natural ventilation only.</p> <p>Medium: Medium disturbance potential/accessibility – Asbestos-containing materials that are visible but where physical access is impeded and/or are in locations in which they may sustain impact and may result in damage or deterioration of the material and/or are exposed to forced ventilation but not within a return air plenum.</p> <p>High: High disturbance potential/accessibility – Asbestos-containing materials that are in a physical location where building occupants might readily access them without use of assistance and/or in locations in which they are likely to sustain damage or deterioration of the material and/or are located within a return air plenum.</p>
Risk Assessment Risk Rating:	<p>Low: Low risk rating. Medium: Medium risk rating. High: High risk rating.</p> <p>Further information regarding the Risk Assessment Factors and Risk Ratings is contained in Appendix C.</p>
Quantity:	<p>Provides an estimate of the quantity of asbestos-containing material. For asbestos cement sheets the quantity is given in square metres (m²). For pipe insulation the quantity is given in linear metres (lin. m) For loose materials such as contaminated debris the quantity is given in cubic metres (m³) or the quantity indicates the approximate size of the area containing asbestos in square metres (m²). Other units are used as required.</p>

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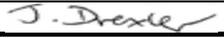
APPENDIX C: REQUEST FOR ANALYSIS AND CHAIN OF CUSTODY

REQUEST FOR ANALYSIS AND CHAIN OF CUSTODY

Company:	Asbestos Inspections Australia Pty Ltd			Investigation No.:	4/08/2008- 1River		
Requesting Officer:	David Drexler			Job Address:	1 River Street, Birchgrove		
Address:	Level 5, 203 New South Head Road, Edgecliff, NSW, 2027			Laboratory:	Envirolab Services Pty Ltd		
Phone:	9363 1055			Address:	12 Ashley Street, Chatswood, NSW, 2067		
Email:	advice@asbestosinspections.com.au			Phone:	9910 6200		
Samples Taken By:	David Drexler			Signature:			

Sample ID	Date Sampled	Sample Type	Analysis Required
1River-1	4/08/2008	Fibre cement sheeting behind the timber weatherboards to the right hand side wall to the building to the exterior of the bathroom.	Asbestos Identification (PLM/DS)
1River-2	4/08/2008	Fibre cement eaves to the rear of the gabled roof.	Asbestos Identification (PLM/DS)
1River-3	4/08/2008	Fibre cement fragments attached to the timber wall frame to the left hand side wall in the kitchen.	Asbestos Identification (PLM/DS)
Not applicable.			

Sample(s) Relinquished By:	David Drexler			Sample(s) Received By:	Jacob Drexler		
Organisation:	Asbestos Inspections Australia			Organisation:	Asbestos Inspections Australia		
Date:	5/08/2008	Time:	1.00 pm	Date:	5/08/2008	Time:	1.00 pm
Sample(s) Sealed:	Yes			Sample(s) Sealed:	Yes		
Signature:				Signature:			

Sample(s) Relinquished By:	Jacob Drexler			Sample(s) Received By:	J. Hie		
Organisation:	Asbestos Inspections Australia			Organisation:	Envirolab Services		
Date:	5/08/2008	Time:	4.00 pm	Date:	5/08/2008	Time:	4.00 pm
Sample(s) Sealed:	Yes			Sample(s) Sealed:	Yes		
Signature:				Signature:	On original.		

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APPENDIX D: CERTIFICATE OF ANALYSIS



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

CERTIFICATE OF ANALYSIS 21538

Client:

Asbestos Inspections Australia
Level 5, 203 New South Head Rd
Edgecliff
NSW 2027

Attention: David Drexler

Sample log in details:

Your Reference:	<u>Reference deleted</u>
No. of samples:	3 Materials
Date samples received:	10/07/08
Date completed instructions received:	10/07/08

Analysis Details:

Please refer to the following pages for results and methodology summary.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Note, even after disintegration it can be difficult to detect the presence of asbestos in some asbestos -containing bulk materials using PLM and dispersion staining. 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 epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Report Details:

Date results requested by:	12/07/08
Date of Preliminary Report:	Not issued
Issue Date:	12/07/08

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Results Approved By:

Asbestos was analysed by Approved Identifier: Name deleted



Joshua Lim
Chemist



Envirolab Ref:	Sample ID:	Date analysed	Sample Description	Asbestos ID in materials	Asbestos Fibres
--	--	-	-	-	-
21538-1	Reference-1	7/08/2008	100x80x5mm fibre cement sheet	Chrysotile asbestos detected Crocidolite asbestos detected	Bonded
21538-2	Reference-2	7/08/2008	2g fibreboard fragments	Chrysotile asbestos detected	Bonded
21538-3	Reference-3	7/08/2008	100x50x5mm fibreboard	Chrysotile asbestos detected	Bonded

Method ID	Methodology Summary
AS4964-2004	Qualitative identification of asbestos type fibres in bulk using Polarised Light Microscopy and Dispersion Staining Techniques.

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APPENDIX E: RISK ASSESSMENT FACTORS AND RISK RATINGS

RISK ASSESSMENT FACTORS AND RISK RATINGS

Risk Assessment Factors

It is necessary to differentiate between 'asbestos hazard' and 'asbestos risk'. 'Hazard' indicates the potential for harm, while 'risk' refers to the probability of that harm occurring. For example, the presence of asbestos in a building is a hazard, but while that asbestos remains in sound condition and does not release fibres into the air, the risk is negligible.

To assess the health risk posed by the presence of asbestos-containing materials all relevant risk assessment factors must be considered. The risk assessment factors that have been taken into account in assessing the risk of exposure to airborne asbestos fibres and dust include:

- Condition of the asbestos-containing material
 - Evidence of physical damage to the asbestos-containing material including but not limited to cracking, damage, wear and tear and holes;
 - Evidence of weathering to the asbestos-containing material;
 - Evidence of water damage to the asbestos-containing material;
- Friability of the asbestos-containing material
 - A friable asbestos-containing material, when dry, is or may become crumbled, pulverised or reduced to powder by hand pressure. This may include asbestos-containing materials that have been subjected to conditions that leave them in a state where they meet the above definition, such as weathering, physical damage and water damage. Friable asbestos-containing materials include limpet structural beam insulation and pipe lagging;
 - A non friable asbestos-containing material is typically comprised of asbestos fibres bound in a stable non-asbestos matrix, including but not limited to cement, vinyl and resin. Non friable asbestos-containing materials are commonly known as bonded asbestos-containing materials and include asbestos cement products, vinyl tiles and pitch-based electrical backing boards.
- Accessibility and likelihood of disturbance to the asbestos-containing material
 - Requirement for access for maintenance operations, building operations, work and/or other activities that may disturb the asbestos-containing material;
 - Proximity of the asbestos-containing material to activities which may cause damage to the material;
 - Exposed surface area of the asbestos-containing material;
 - Proximity of air plenums and direct air streams to the asbestos-containing material;
 - Environmental conditions.

Risk Ratings

The risk assessment factors are used to rank, or rate, the risk posed by the presence of the asbestos-containing material. The risk assessment factors are assigned risk values which are used to determine the risk rating.

The risk ratings are defined as follows:

Low risk rating

- Attributed to asbestos-containing materials that pose a low risk to occupants and/or the general public, providing the materials remains in their current state;
- The materials do not present a health risk unless disturbed by intrusive work such as drilling, cutting, breaking or sanding;
- Recommendations for ongoing management of these materials should occur within six months;

Medium risk rating

- Attributed to asbestos-containing materials that pose a moderate risk to occupants and/or the general public in their current state;
- Removal, or encapsulation where applicable, should occur within three months. If the material is repaired (encapsulated) it should be accompanied by regular inspections and assessments;

High risk rating

- Attributed to asbestos-containing materials that pose an immediate or elevated risk to occupants and/or the general public in their current state;
- Actions should be taken as soon as practicable to remove asbestos-containing materials with a high risk rating. Access to asbestos-containing materials with a high risk rating may be restricted until removal is completed and clearance to reoccupy has been granted, where required;

Extreme risk rating

- Attributed to asbestos-containing materials that pose an immediate risk to occupants and/or the general public in their current state;
- Immediate action should be taken to restrict access to asbestos-containing materials with an extreme risk rating. Access to asbestos-containing materials with an extreme risk rating should be restricted to prevent exposure and the spread of asbestos fibres until removal and/or decontamination is completed and access to reoccupy has been granted;
- Extreme risk ratings attributed to asbestos-containing materials are uncommon and would not normally be reported within the Asbestos Register because the Client would be advised of the urgency of the recommended control action at the time of the Asbestos Inspection and control measures would usually have been carried out prior to development of the Asbestos Register.

It should be noted that the Control Recommendations stated in the Asbestos Register are recommended only and that implementation of the Control Recommendations is the responsibility of the owner of the premises.

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APPENDIX F: STATEMENT OF LIMITATIONS

STATEMENT OF LIMITATIONS

This Asbestos Inspection Report has been prepared in accordance with the scope of work set out in the contract, or as otherwise agreed, between the Client and Asbestos Inspections Australia Pty Ltd. In some circumstances the scope of work may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints.

The Asbestos Inspection has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using the degree of skill, care and diligence normally exercised by consultants providing the same services. However, there is no guarantee, express or implied, that all asbestos has been identified in this property.

This Asbestos Inspection Report is made solely for the use and benefit of Name deleted and no liability or responsibility whatsoever is accepted to any third party who may rely on the Report wholly or in part. Any third party is not permitted access to this Report without the written consent of this Company. The Report has been prepared for the benefit of the Client and no other party. Asbestos Inspections Australia Pty Ltd assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the Report.

In preparing the Report, Asbestos Inspections Australia Pty Ltd may have relied upon data, surveys, analyses, designs, plans and other information provided by government authorities, the Client and other individuals and organisations whose documents are referred to in this Report if they are deemed to be relevant. Except as otherwise stated in the Report, Asbestos Inspections Australia Pty Ltd has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the Report are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Asbestos Inspections Australia Pty Ltd will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to Asbestos Inspections Australia Pty Ltd.

While the Asbestos Inspection has attempted to locate all the asbestos-containing materials, and as the site inspection was a visual inspection and sampling process, only those asbestos-containing materials that were physically accessible could be located and identified. Therefore, it is possible that materials, which may be concealed within inaccessible areas, may not have been located during the site inspection.

All inaccessible areas at this property, including but not limited to wall cavities, between floors, inside skillion roofing and inside the eaves; areas behind or concealed by fixed ceilings, wall linings, floor coverings, fixtures, fittings, furniture, clothes, stored articles/materials, thermal insulation, sarking, pipe/duct work, builders debris, vegetation, pavements or earth; integral parts of boilers, pumps, machinery, plant and pipework and reheat units within air conditioning ducts; cores to fire doors; areas accessible only through manholes and trapdoors where these are locked or otherwise not readily accessible and areas located in rooms such as garages or laundries which are locked or also otherwise inaccessible at the time of our inspection, are presumed to contain asbestos-containing materials in accordance with Section 9.2 *Presuming that materials contain asbestos* of the Australian Safety and Compensation Council Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)].

Destructive inspection and sampling techniques were not employed to gain access to inaccessible areas. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of asbestos has been detected.

During the course of normal site works, refurbishment or demolition works care should be exercised when entering any previously inaccessible areas and it is imperative that work cease pending further investigation and sampling if materials suspected of containing asbestos or unknown materials are encountered.

Limitations (or parameters) apply to analytical methods used in the identification of substances. These limitations may be due to non-homogenous material being sampled (i.e. the sample to be analysed may not be representative), low concentrations, the presence of 'masking' agents and the restrictions of the approved analytical technique. As such, non-statistically significant sampling results can only be interpreted as 'indicative' and not used for quantitative assessments.

It is very difficult and sometimes impossible to determine the presence of asbestos in vinyl floor and wall tiles, vinyl sheeting and other vinyl products, and therefore the laboratory cannot guarantee the accuracy of analysis. Due to the very low concentration of asbestos fibres and the non-homogenous matrix of vinyl floor tiles, false negative results may be obtained. Therefore the accuracy of all results cannot be guaranteed.

The data, findings, observations, conclusions and recommendations in the Report are based solely upon the state of the property at the time of the inspection. The passage of time, manifestation of latent conditions or impacts of future events (e.g. changes in legislation, scientific knowledge, land uses, etc.) may render the Report inaccurate. In those circumstances, Asbestos Inspections Australia Pty Ltd shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of the Report.

Asbestos Inspection Report

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APPENDIX G: IMPORTANT NOTES THAT FORM PART OF THIS REPORT

IMPORTANT NOTES THAT FORM PART OF THIS REPORT

1. This Asbestos Inspection Report is a visual Report confined to reporting, as the date of the inspection, on the possible existence or absence of asbestos and its level of safety and danger based solely upon visual inspection of those areas of the property readily visible and fully accessible to the asbestos consultant on the date of the inspection, and upon the taking of samples of materials for laboratory analysis for asbestos identification when the taking of samples is practicable.
2. Asbestos Inspections Australia Pty Ltd recommends that samples of materials presumed to contain asbestos be taken for laboratory analysis for asbestos identification prior to removal of the materials in order to confirm the presence of asbestos to avoid the expense associated with removal of the materials where asbestos is not present in the materials presumed to contain asbestos.
3. Because we only report on the existence or absence of asbestos and its level of safety and danger in the visually observable and readily accessible parts of the property at the time of the inspection this Company will not accept any responsibility and cannot be held liable for any asbestos and for its condition that may be present in any concealed or non-readily accessible sections of the property, including areas where asbestos has become discoverable only because alterations or other works to the property have resulted in new areas becoming accessible or visible. The asbestos consultant CANNOT SEE and accordingly CANNOT REPORT on the existence or absence of asbestos and on its condition in the areas inside walls, between floors, inside skillion roofing and inside the eaves; areas behind or concealed by fixed ceilings, wall linings, floor coverings, fixtures, fittings, furniture, clothes, stored articles/materials, thermal insulation, sarking, pipe/duct work, builders debris, vegetation, pavements or earth; integral parts of boilers, pumps, machinery, plant and pipework and reheat units within air conditioning ducts; cores to fire doors; areas accessible only through manholes and trapdoors where these are locked or otherwise not readily accessible and areas located in rooms such as garages or laundries which are locked or also otherwise inaccessible at the time of our inspection. The Client will be charged an additional fee to inspect these areas if access becomes available at a later date. We cannot, as part of our inspection, make penetrations into, dig, gouge, break apart, dismantle, remove or move any structures or objects including but not limited to furnishings, floors, walls and ceilings and their coverings, insulation, appliances, foliage and personal possessions. Accordingly, even where we report that no asbestos was found in a particular section of the property, this should not be taken as warranting or representing that no asbestos exists in those parts not readily visible or readily accessible at the time of our inspection.
4. Unless otherwise mentioned, samples were not taken of phenolic based co-polymer products/resin (pitch-based) products (commonly known as "Zelemite", "Ausbestos" and "Lebah"), which are known to contain asbestos, within electrical and/or control boards which may have been "live" at the time of inspection.
5. We cannot, as part of our inspection, dig gouge, break apart, dismantle, remove or move any objects including but not limited to furnishings, floor and wall coverings, insulation, appliances, foliage, personal possessions, plant and equipment. Accordingly, we will accept no responsibility for the presence of any asbestos-containing materials or for the subsequent removal of any asbestos-containing materials that may become apparent when any of the actions stated above take place as is often the case when former occupants of the property vacate the property. Unless otherwise mentioned, inspection of any other floor coverings below existing floor coverings was not undertaken.

6. Any references in this Report to materials other than asbestos-containing materials are not to be taken as necessarily accurate, since identification of such materials is not included within the scope of this Report.
7. Measurements and quantities mentioned in this Report are approximate only and should not be relied upon for the purpose of establishing removal costs (for instance).
8. It is not part of our engagement to undertake any treatment, containment or removal where we find asbestos in an unsafe state. This work should only be contracted to firms which are licensed to remove asbestos and have solid experience in this sort of work.
9. All works and actions recommended in the Control Recommendations in the Asbestos Register should be carried out in accordance with the Australian Safety and Compensation Council Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)] and the Australian Safety and Compensation Council Code of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002(2005)].
10. Materials reported as "similar to" in the Sample ID column in Appendix A: Asbestos Register are based on a visual inspection and comparison to a sample taken for laboratory analysis.
11. The client must not rely upon an inspection or report as indicating that a site or building is "asbestos free". All that the Report can be relied upon to show is that no asbestos was found (or that only such asbestos was found as was reported to have been found) in the course of the inspection. The findings of the Report must be considered together with the specific scope and limitations of the type of inspection undertaken.
12. Asbestos Inspections Australia Pty Ltd will not be liable to update or revise the Report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the Report.
13. This Report overrides any verbal report provided by our asbestos consultants or any conversation that may take place between our asbestos consultants and the Client.
14. Where this Report is being considered in relation to the purchase of a property or properties we strongly recommend that every section of the Report is thoroughly read before the purchase proceeds.
15. Any dispute that may arise in relation to the provision of the Report will be resolved by an Arbitrator selected by the Institute of Arbitrators & Mediators. The cost of arbitration will be shared equally by the parties involved in the dispute.
16. If copies are required, all relevant parts of this Report must be reproduced in full.
17. This Report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works.
18. This Report must be presented in full and may not be used to support any other objective than those set out in the Report, except where written approval with comments are provided by Asbestos Inspections Australia Pty Ltd.

19. Our asbestos consultants are not authorised to move any items on the properties we inspect including but not limited to furniture, fittings, floor coverings, white goods, debris, vegetation or any personal effects. These items can sometimes conceal access to the subfloor below the property, access to the manhole into the ceiling area and access to other areas of the property. Accordingly, the client will be charged an additional fee to inspect these areas if access becomes available at a later date as a result of the movement of these items.

20. **DISCLAIMER OF LIABILITY TO THIRD PARTIES:-** This Report is made for the use and benefit of the Client named on the front of this Report and no liability or responsibility whatsoever is accepted to any third party who may rely on the Report wholly or in part. Any third party acting or relying on this Report whether in whole or in part does so at their own risk. The Report has been prepared for the benefit of the Client and no other party. Asbestos Inspections Australia Pty Ltd assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the Report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the Report (including without limitation matters arising from any negligent act or omission of Asbestos Inspections Australia Pty Ltd or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the Report). Other parties should not rely upon the Report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters. For the purposes of this limitations statement, "conclusions" include statements, opinions, facts, information, conclusions and/or recommendations in the Report.

21. **ACCEPTANCE OF THIS REPORT:-** The Client agrees that they accept this Report with all the conditions stated therein and rely on it subject to those conditions.

Asbestos Inspection Report

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APPENDIX H: EXTRACTS FROM WORKCOVER NEW SOUTH WALES
FIBRO & ASBESTOS: A RENOVATOR AND HOMEOWNER'S GUIDE

EXTRACTS

□ From Workcover New South Wales *Fibro & Asbestos: A Renovator and Homeowner's Guide*.

Does your fibro contain asbestos?

Only fibro products made before 1987 contain asbestos. In NSW, for example, the use of asbestos was discontinued in fibro sheets by 1982, in corrugated sheets by 1984 and in all other products by 1986.

The manufacture and use of asbestos product was banned nationally from 31 December 2003.

What else is made of asbestos cement?

Products made from asbestos cement not only include fibro sheeting (flat and corrugated), but items such as water, drainage and flue pipes, roofing shingles and guttering.

What are the risks?

Breathing in asbestos fibres can cause asbestosis, lung cancer and mesothelioma. This does not automatically mean that your health is at risk if you find that your home or workplace is made from fibro products. Studies have shown that these products, if in sound condition and left undisturbed, are not a significant health risk. If the asbestos fibres remain firmly bound in a solid cement sheet or structure, generally you do not need to remove the fibro or even coat it.

Health problems usually occur when people are unaware of the hazards of working with fibro. The important point is to always work so there's minimal release of dust or small particles from asbestos material. If you use commonsense and follow safety guidelines, working with fibro products should not be a problem.

Safety checklist

Do not use power tools.

Asbestos fibres can be released if power tools are used for anything other than the removal of screws.

Do not waterblast or scrub with a stiff broom or brush.

It is illegal to waterblast asbestos-cement sheets. If the material has been accidentally waterblasted or has suddenly deteriorated in some way, you should call a licensed asbestos removal contractor.

Wet gently with water.

When removing fibro sheets, wet gently with water, whenever possible, to minimize any release of fibres. Remember do not waterblast. Be careful when on roofs, as asbestos sheets are brittle and slippery when wet.

Avoid drilling and cutting into asbestos products.

Do not drill holes through eaves, flues or vents, as these may also be asbestos products. Never cut into a fibro sheet. Instead remove the entire sheet and replace it with a non-asbestos product.

Let people know.

Talk it over with those who may be affected by the removal and disposal of your fibro, such as neighbours.

Cover up. You should wear disposable overalls and an appropriate dust mask if you are working with asbestos products. Make sure your mask has two straps to hold it firmly in place. Don't use masks that only have one.

Don't drop fibro sheets. Remove asbestos sheets carefully. Lower, don't drop them to the ground with minimum breakage.

Cleaning up

Stack and wrap. Stack fibro sheets carefully on ground sheets, wrap into bundles for disposal or place directly into bins that have been prelined with plastic sheeting. Cover the load before disposal.

No skidding. When stacking sheets, do not skid one sheet over another, as this will cause release of fibres.

Remove immediately. Do not leave sheets lying about where they may be further broken or crushed by people or vehicular traffic. Remove all asbestos waste as soon as you can.

Clean up everything. Put used disposable overalls and masks in bags for removal with other asbestos wastes.

Safe disposal

Dispose of all asbestos waste promptly. For safety reasons always:

- **Dampen all asbestos waste** and wrap in plastic, or put in lined bins or vehicles. Do not put asbestos waste in domestic garbage bins or compactors because it is illegal to do so. Remove all asbestos waste from a site as soon as possible.
- **Dispose of asbestos waste** in a manner and at a site approved by your local council or the appropriate disposal authority. (See *Help and advice* section below). It is illegal to re-use asbestos products.

Other things to keep your eye on

Hail damage to your roof or any asbestos cement product can be as bad as waterblasting. Call a licensed asbestos removal contractor immediately if the hail was heavy. See *Help and advice* section below for contact numbers.

Watch for weathering. Surface weathering can lead to the release of asbestos fibres from roofs. Weathered asbestos products can release fibres when disturbed, such as in the removal of an asbestos roof or gutters.

Fire damage. Fire damaged property containing asbestos product could result in loose asbestos fibres due to intense heat. A licensed asbestos contractor must be used for cleaning up.

Keep guttering (and downpipes) in good repair. As asbestos fibres collect in gutters after heavy rain, guttering and downpipes should be in good repair on buildings with asbestos roofing. Downpipes should not run into garden beds. Wet clean and seal roof gutters before removing them.

What about insulation? Insulation materials in house roof spaces are usually fibreglass, rockwool, paper or foam. Very few houses in NSW have loose asbestos insulation in the roof space.

When to coat asbestos products

Coating fibro products is not recommended. You should only coat fibro products if they're in sound condition and then only to waterproof them. **Do not waterblast fibro.**

Remember:

Risks associated with installed, undisturbed asbestos products are small. Even weathered asbestos roofing does not release many airborne fibres unless the material is either disturbed or handled in a way that promotes the release of fibres.

Coating is not considered necessary on health grounds. Surface coatings, however, can extend the life of asbestos products and may improve their appearance. Special sealants only should be used on asbestos material, as ordinary paints do not bond well to the surface of weathered asbestos cement products. Seek professional advice and use a professional painter, where possible.

Check if your asbestos roofing needs to be replaced. Roofing that has weathered to the point where it is structurally unsound and no longer waterproof should be replaced.

If you decide to coat your roof, put planks down so that people do not have to walk directly on the roof. Use a fall protection system to prevent persons falling from the roof edge or through the roof.

Wear dust masks and overalls when working.

HELP AND ADVICE

For more information visit the NSW Government website at www.nsw.gov.au.

For a listing of licensed asbestos removal contractors in your area, refer to your local telephone directory or the Yellow Pages.

For advice on the transport and disposal of asbestos products in NSW, contact the Department of Environment and Conservation Pollution Line on 13 15 55 or your local council.

For advice on working with asbestos or fibro or who can be contracted to remove it contact the WorkCover Assistance Service on 13 10 50 or visit the WorkCover website at www.workcover.nsw.gov.au.

Asbestos Inspection Report

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APPENDIX I: ABOUT ASBESTOS

ABOUT ASBESTOS

What is Asbestos

Asbestos is the collective term given to a group of naturally occurring fibrous varieties of silicate minerals. Asbestos types occur within two groups of minerals: the serpentine minerals and the amphibole minerals. Although there are about a dozen asbestos minerals, only three were in widespread use in Australia. These were:

- (i) Chrysotile, or white asbestos. This has soft, white curly fibres and was the type in most common use;
- (ii) Amosite, or brown asbestos. This has straight, harsh grey to brown fibres and was often used in situations where additional strength was required, such as in the manufacture of asbestos-cement pressure pipes; and
- (iii) Crocidolite, or blue asbestos. This has straight, blue fibres and the fibres tend to be very fine. Blue asbestos tends to have been used in situations in which acid resistance was particularly needed.

Asbestos Properties

The properties of asbestos fibres include thermal stability and resistance, chemical resistance, high tensile strength, abrasion resistance, low electrical and thermal conductivity, low biodegradability and good sound absorption qualities.

The presence of asbestos in commercial products varies depending upon the product's uses. While all forms of asbestos are fibrous silicates, they differ in their chemical composition and properties, crystalline structure and fibre dimensions, and as such their commercially useful properties also vary.

All asbestos types are excellent thermal insulators and have been widely used as fire proofing (on steel structural beams and soffits) and insulation materials (on boilers, ovens, kilns, steam pipes and hot water pipes). The amphibole group has considerable resistance to chemical corrosion and has been used in environments which are prone to attack by acids. Both chrysotile and crocidolite have high tensile strength and have been widely used in the manufacture of woven asbestos products. All the asbestos types show low electrical and thermal conductivity, low biodegradability and good sound absorption properties.

Types of Asbestos

There are two main types of asbestos-containing materials (ACMs):

- (i) Bonded asbestos has been mixed with other products to form building materials commonly found in houses and home units; and
- (ii) Friable asbestos is any asbestos material that can be crumbled or pulverized by hand pressure when dry or asbestos that is in a powder form.

Removal

Removal of asbestos cement products should only be undertaken by licensed contractors. Each state has its own regulations and you should check with your local Council before removal commences. Essential safety precautions must include wearing a respirator and overalls, roping off work areas, notifying neighbours, wetting down materials, use of non-powered hand tools, wrapping waste in clearly labeled plastic and immediate disposal of waste to an approved site.

Asbestos is Commonplace

From the early 1900s until the early 1970s, asbestos was widely used in industry. The use of asbestos cement sheets in roof pipes and wall cladding was particularly widespread, as was the use of "limpet" asbestos fibre insulation in steel framed high rise buildings. Asbestos was also used for applications such as insulation of pipes and high temperature electricity cables, in plastics, in PVC floor tiles, for reinforcement in cements, putties and mastic and in gaskets and friction materials.

Whilst major uses of asbestos were sometimes recorded on engineering drawings, there are few records of the ad hoc use of asbestos containing products and materials. To give examples from the building industry, plumbers frequently used asbestos fibre in caulking compounds and builders often used AC sheeting as packing under squeaky floor boards.

In short, asbestos could be almost anywhere in a building or plant constructed before the 1980s.

General Health Risks

Inhalation of asbestos fibre may lead to the following asbestos related diseases:

- (i) Mesothelioma: cancer of the pleura (lining of the lung cavity) or peritoneum (lining of the abdominal cavity);
- (ii) Asbestosis: scarring of the lung tissue;
- (iii) Lung Cancer: a cancer similar to that associated with tobacco smoking; and
- (iv) Other cancers: cancer of the larynx, oesophagus, stomach, bowel, rectum and kidneys has been identified in heavily exposed asbestos workers.

Asbestos related diseases do not appear for a long time following exposure to asbestos. The term "latency period" is used to describe the period of time which passes between being exposed to airborne asbestos fibre and the disease being diagnosed. Depending upon the asbestos type and magnitude of exposure, the latency period generally ranges from between 10 and 40 years.

Asbestosis, mesothelioma and lung cancer, the recognised diseases caused by asbestos, are all as a result of inhalation of airborne asbestos fibres. Hence for asbestos containing products to pose a health risk airborne fibres must be generated either through degradation or high energy mechanical action. The degree of asbestos fibre release, and hence inhalation exposure, is in part dependent upon the matrix material binding the asbestos and its general condition.

Asbestos Cement Products

Asbestos cement products were commonplace building materials prior to 1986. The material consists of asbestos fibres bound in a cement matrix and the degree of fibre release depends on the condition of the material.

The main health risk with asbestos cement products is from maintenance or similar activity where the material is worked upon resulting in airborne dust.

It is necessary to have in place safe systems of work when working upon asbestos cement products.

Vinyl Floor Coverings

With vinyl floor coverings, asbestos may be present in any of the following:

- (i) the vinyl body of the tile or sheet;
- (ii) a fibrous backing under the tile or sheet; and
- (iii) a fibrous adhesive used to fix the tile.

Asbestos contained in the vinyl body of the tile or sheet is held in a stable matrix. The very low rate of wear does not normally give rise to fibre release considered to pose a significant health risk. A health risk may arise when asbestos fibres are released due to maintenance work and possibly the use of metal brush mechanical floor scrubbers (although this is not proven) or when the flooring is friable due to age.

Asbestos backing is sometimes used to line the back of vinyl sheeting. This product does not pose a risk to exposure from airborne fibres, so long as it is not disturbed or worked upon, i.e. abraded, scuffed or handled. Any of these actions may release the asbestos fibres into the environment.

Asbestos backing or asbestos adhesive is normally not exposed and does not represent a significant health risk. However, when exposed these materials may liberate fibres depending upon the amount of abrasion and the age and condition of the material.

Asbestos Millboard Insulation

Asbestos millboard insulation can be friable. Generally this material does not pose a significant risk to health except where it has severely degraded or when it is mechanically or physically disturbed.

Gaskets and Asbestos Pipe Lagging

Gaskets are composed of a wide variety of materials. Asbestos may be present in some gaskets.

Asbestos pipe lagging can be in the form of either woven rope material or formed section insulation. Where the material is in situ it does not pose a significant risk except where the materials have severely degraded.

The main concern with asbestos gaskets and asbestos pipe lagging is during maintenance activities where significant fibre release can result if the gaskets or rope are worked upon.

Air-conditioning Heaterbank Millboard Insulation

The risk from exposure to airborne asbestos fibres through the air conditioning system is minimal, so long as the material is not disturbed or damaged.

Although not usually accessed internally for inspection because the units are sealed, it is possible that these heaterbanks may be lined with asbestos millboard. Further investigation may be warranted to confirm the presence of asbestos millboard in the ductwork.

Asbestos Containing Electrical Backing Boards

Asbestos-containing materials such as the asbestos impregnated resin board (ie "Zelemite" or "Ausbestos"), are generally in good condition. These products do not pose a risk to exposure from airborne fibres, so long as they are not disturbed or worked upon, i.e. cut, sawn, drilled or sanded. Any of these actions may release the asbestos fibres into the environment.

Asbestos Impregnated Sealants (i.e. Mastic)

Asbestos-containing materials such as asbestos impregnated sealant (i.e. mastic) are generally in good condition. This product does not pose a risk to exposure from airborne fibres, so long as they are not disturbed or worked upon, i.e. drilled, sanded or burnt. Any of these actions may release the asbestos fibres into the environment.

Asbestos Fire Door Core Material

Asbestos containing core materials in the fire doors are usually sealed and undisturbed. This material does not pose a risk to exposure from airborne fibres, so long as the core is not disturbed or worked upon, i.e. drilled, cut, or abraded. Any of these actions may release the asbestos fibres into the environment.

Limpet Asbestos

Limpet asbestos is friable (unbound) and normally has been hand applied or sprayed onto the material being insulated. Generally speaking limpet asbestos is located in areas not readily accessible to occupants of a building (e.g. ceiling cavities, roof spaces, plant rooms).

Risk of exposure to airborne asbestos fibres is significant to maintenance personnel, and the like, whose tasks may involve accessing these areas and when safe work practices are not enforced. It is usually necessary to wear personal protective equipment, such as a respirator, prior to accessing these areas.

Under normal circumstances where the asbestos is not disturbed the risk of exposure to airborne asbestos fibres is minimal.

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APPENDIX J: REFERENCES AND FURTHER READING

REFERENCES AND FURTHER READING

- It is recommended that the following documents be read in conjunction with this Report.

Australian Safety and Compensation Council 2005, *Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018(2005)]*, Commonwealth of Australia, Canberra.

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- Available from the WorkCover New South Wales website at <http://www.workcover.nsw.gov.au/>.

Health and Safety Executive 2005, *Asbestos: The analysts' guide for sampling, analysis and clearance procedures*, Her Majesty's Stationery Office, Norwich, England.

- Available from the United Kingdom Health and Safety Executive website at <http://www.hse.gov.uk/>.

United Kingdom Health and Safety Executive 2001, *Surveying, sampling and assessment of asbestos-containing materials (MDHS 100)*, Her Majesty's Stationery Office, Norwich, England.

- Available from the United Kingdom Health and Safety Executive website at <http://www.hse.gov.uk/>.

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☐ Available from the WorkCover New South Wales website at <http://www.workcover.nsw.gov.au/>.

WorkCover NSW, *Position Paper Adoption of the 2005 ASCC Asbestos Documents in NSW*, WorkCover NSW, Gosford.

☐ Available from the WorkCover New South Wales website at <http://www.workcover.nsw.gov.au/>.

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☐ Available from the WorkCover New South Wales website at <http://www.workcover.nsw.gov.au/>.

WorkCover NSW 2003, *Your Guide to Working with Asbestos* (Publication Number 4064), WorkCover NSW, Gosford.

☐ Available from the WorkCover New South Wales website at <http://www.workcover.nsw.gov.au/>.

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APPENDIX K: PHOTOS

PHOTOS



Photo 1: Fibre cement sheeting to the left hand side and right hand side walls to the building.



Photo 2: Fibre cement sheeting behind the timber weatherboards to the right hand side wall to the building to the exterior of the bathroom.



Photo 3: Fibre cement sheet fragments to the timber framework to the rear wall to the building to the right hand side of the kitchen.



Photo 4: Fibre cement eaves to the left hand side and right hand side of the roof.



Photo 5: Fibre cement eaves to the front and rear of the gabled roof.



Photo 6: Fibre cement sheeting to the left hand side wall to the building, the inside surface of which is visible to the left hand side wall in the kitchen.



Photo 7: Fibre cement sheeting to the timber framework to the left hand side wall in the kitchen.



Photo 8: Fibre cement sheet fragment to the timber framework to the left hand side wall in the kitchen.



Photo 9: Fibre cement sheet fragments around the nails to the timber framework to the left hand side wall in the kitchen.



Photo 10: Fibre cement sheeting to the timber framework to the rear wall in the kitchen.



Photo 11: Fibre cement sheeting between the timber framework to the left hand side wall in the kitchen.



Photo 12: Fibre cement sheeting and fragments to the ceiling joists in the kitchen.



Photo 13: Fibre cement sheet fragments on the horizontal timber framework to the right hand side wall in the bathroom.



Photo 14: Fibre cement sheet packing (spacers) between the window and wall frame in the bathroom.



Photo 15: Compressed fibre cement sheeting under the brick hearth to the fireplace in the family room.



Photo 16: Fibre cement sheeting on the first floor front balcony.



Photo 17: Fibre cement sheeting on the ground in the subfloor under the kitchen.



Photo 18: Fibre cement sheet packing (spacers) between the piers and bearers in the subfloor under the lounge room.



Photo 19: Fibre cement sheeting to the rear wall in the electrical meter box.



Photo 20: Fibre cement sheeting on the ground to the right hand side of the building at the exterior of the bathroom.