

Green Star – Office Interiors v1.1

Indoor Environment Quality
IEQ-9 Asbestos

Points Available	Points Claimed	CIR Submitted
1	1	N

Credit Criteria

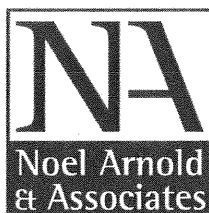
One point is awarded where it is demonstrated that an asbestos survey has been carried out on the existing tenancy and all identified asbestos has been appropriately removed and disposed of as defined by the relevant environmental and Occupational Health and Safety (OH&S) legislation.

Documents Provided

✓	A copy of an asbestos survey that has been carried out on the existing tenancy. IEQ-9: 1
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Discussion

- No asbestos was found in the tenancy. This is confirmed on page 2 of the report.



Asbestos Materials Survey Report

Jones Lang LaSalle

Level 15, 179 Elizabeth Street, Sydney NSW



November 2007

Our Ref: SJ0027 : 61344

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SJ0027: ATB
61344 Level 15, 179 Elizabeth Street - Asbestos Survey Nov 07

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Practical Solutions

Asbestos Materials Survey Report

Jones Lang LaSalle

Level 15, 179 Elizabeth Street, Sydney NSW

Executive Summary

Purpose

This report presents the findings of an Asbestos Materials Survey conducted of Level 15, 179 Elizabeth Street, Sydney NSW. Noel Arnold & Associates Pty Ltd (NAA) carried out the survey in November 2007 at the request of Kieran McGuinness, General Manager – PPMS Commercial of Jones Lang LaSalle.

Scope

The survey involved a visual inspection of representative construction materials and the collection and analysis of suspected asbestos-containing materials. Limited destructive sampling techniques were employed where practicable.

Findings

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

Recommendations

It is imperative that demolition or refurbishment works cease pending further sampling if materials suspected of containing asbestos or unknown materials are encountered.

Asbestos Materials Survey Report

Jones Lang LaSalle

Level 15, 179 Elizabeth Street, Sydney NSW

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Statement of Limitations

This report has been prepared in accordance with the agreement between Jones Lang LaSalle and Noel Arnold & Associates Pty Ltd.

Within the limitations of the agreed upon scope of services, this assessment has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using a degree of skill and care ordinarily exercised by members of its profession and consulting practice. No other warranty, expressed or implied, is made.

This report is solely for the use of Jones Lang LaSalle and any reliance of this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties or for other uses. This report shall only 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 Noel Arnold & Associates Pty Ltd.

This report was prepared for Jones Lang LaSalle solely for the purpose set out herein and it is not intended that any other person use or rely on it. Whilst this report is accurate to the best of our knowledge and belief Noel Arnold & Associates Pty Ltd cannot guarantee completeness or accuracy of any descriptions or conclusions based on information supplied to it during site surveys, visits and interviews. Responsibility is disclaimed for any loss or damage, including but not limited to, any loss or damage suffered by Jones Lang LaSalle arising from the use of this report or suffered by any other person for any reason whatsoever.

This report relates only to the identification of asbestos containing materials used in the construction of the building and does not include the identification of dangerous goods or hazardous substances in the form of chemicals used, stored or manufactured with the building or plant.

The following should also be noted:

While the survey has attempted to locate the asbestos containing materials within the site it should be noted that the review was a visual inspection and a limited sampling program was conducted and/or the analysis results of the previous report were used. Representative samples of suspect asbestos materials for collected for analysis. Other asbestos materials of similar appearance are assumed to have a similar content.

Not all suspected asbestos materials were sampled. Only those asbestos materials that were physically accessible could be located and identified. Therefore it is possible that asbestos materials, which may be concealed within inaccessible areas/voids, may not have been located during the audit. Such inaccessible areas fall into a number of categories, including but not restricted to:

- (a) In set ceilings or wall cavities.
- (b) Those areas accessible only by dismantling equipment or performing minor localised demolition works.
- (c) Service shafts, ducts etc., concealed within the building structure.
- (d) Energised services, gas, electrical, pressurised vessel and chemical lines.
- (e) Voids or internal areas of machinery, plant, equipment, air-conditioning ducts etc.
- (f) Totally inaccessible areas such as voids and cavities created and intimately concealed within the building structure. These voids are only accessible during major demolition works.
- (g) Height restricted areas.
- (h) Areas deemed unsafe or hazardous at time of audit.

In addition to areas that were not accessible, the possible presence of hazardous building materials may not have been assessed because it was not considered practicable as:

- 1. It would require unnecessary dismantling of equipment; and/or
- 2. It was considered disruptive to the normal operations of the building; and/or
- 3. It may have caused unnecessary damage to equipment, furnishings or surfaces; and/or
- 4. The hazardous material was not considered to represent a significant exposure risk
- 5. The time taken to determine the presence of the hazardous building material was considered prohibitive.

Only minor destructive auditing and sampling techniques were employed to gain access to those areas documented in Appendix A. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of hazardous material has been detected.

During the course of normal site works care should be exercised when entering any previously inaccessible areas or areas mentioned above and it is imperative that work cease pending further sampling if materials suspected of containing asbestos or unknown materials are encountered. Therefore during any refurbishment or demolition works, further investigations and assessment may be required should any suspect material be observed in previously inaccessible or areas not fully inspected previously i.e. carpeted floors.

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. To ensure its contextual integrity, the report must be read in its entirety and should not be copied, distributed or referred to in part only.

1. Introduction

This report presents the findings of an Asbestos Materials Survey conducted of Level 15, 179 Elizabeth Street, Sydney NSW. The survey was undertaken to identify any potential asbestos materials located on-site in order to meet the requirements of the NSW *Occupational Health and Safety Regulation 2001*. Andrew Brabek of Noel Arnold & Associates Pty Ltd (NAA) carried out the survey on Wednesday 14th November 2007 at the request of Kieran McGuinness, General Manager – PPMS Commercial of Jones Lang LaSalle.

2. Scope of Work

The Asbestos Materials Survey included Level 15. The interior & exterior balcony of level 15 was surveyed.

The survey was conducted during normal business hours and the areas surveyed were unoccupied during the assessment. The survey was undertaken to identify asbestos containing materials prior to refurbishment work.

3. Site Description

Site Details					
Site Address	Level 15, 179 Elizabeth Street, Sydney NSW				
Age	Circa 1990	Size	~300m²	No. Levels	1
Construction Materials - Interior					
Walls	Plasterboard				
Ceilings	Concrete				
Floors	Concrete				
Construction Materials - Exterior					
Walls	Concrete block work				
Roof	N/A				
Awnings/Eaves	N/A				

4. Methodology

This assessment was carried out in accordance with the guidelines documented in the *Code of Practice for the Management and Control of Asbestos in Workplaces* [NOHSC: 2018 (2005)].

The survey involved a visual inspection of accessible and representative construction materials and the collection and analysis of materials suspected of containing asbestos. Limited destructive sampling techniques were undertaken where practicable. Three (3) samples of suspected asbestos-containing materials were collected during the survey. These samples were analysed in Noel Arnold & Associates' NATA-accredited laboratory for the presence of asbestos by Polarised Light Microscopy.

4.1 Areas Not Accessible/Not Inspected

It is noted that given the constraints of practicable access encountered during the risk assessment survey, the following areas were not accessed or inspected:

- ☐ Within service shafts, ducts etc., concealed within the building structure;
- ☐ Within voids or internal areas of plant, equipment, air-conditioning ducts etc;
- ☐ Energised services, gas, electrical, pressurised vessel and chemical lines; &
- ☐ Areas deemed unsafe or hazardous at time of audit;

- ☐ Within totally inaccessible areas such as voids and cavities created and intimately concealed within the building structure. These voids are only accessible during major demolition works.

We advise that should refurbishment and demolition operations entail possible disturbance of materials in these locations, further investigation and sampling of specific areas should be conducted as part of an asbestos management and abatement program prior to any works proceeding.

It should be noted that the presence of any residual asbestos insulation and applications on steel members, concrete surfaces, pipe work, equipment and adjacent areas from prior abatement or refurbishment works cannot be ascertained without extensive removal and damage to existing insulation, fittings and finishes.

5. Survey Summary

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

6. Recommendations

It is imperative that demolition or refurbishment works cease pending further sampling if materials suspected of containing asbestos or unknown materials are encountered.

Asbestos Materials Survey Report

Jones Lang LaSalle

Level 15, 179 Elizabeth Street, Sydney NSW

Appendix A: Asbestos Materials Register

□ The table below outlines the layout of the tabulated Asbestos Register and the information presented.

- ☐ The findings of the report are contained in this appendix; Asbestos Materials Register.
- ☐ A summary of the significant findings is contained in Section 5.

[illegible]

Asbestos Materials Register

Level 15, 179 Elizabeth Street, Sydney NSW

Date: Wednesday 14th November 2007

Assessed by: Andrew Brabek

Location Item Description Comments	Sample No.	Sample Status	Photo No.	Extent	Condition	Friability	Disturb. Potential	Risk Status	Re- Inspect Date	Control Priority	Control Recommendation
Interior											
Electrical cupboard Electrical distribution board Electrical backing board	61344-03	Negative	-	-	-	-	-	-	-	-	-
Exterior											
Balcony Pointing around ceramic floor files Mastic	61344-01	Negative	-	-	-	-	-	-	-	-	-
Balcony Pointing between concrete block work Mastic	61344-02	Negative	-	-	-	-	-	-	-	-	-

Asbestos Materials Survey Report

Jones Lang LaSalle

Level 15, 179 Elizabeth Street, Sydney NSW

Appendix B: Asbestos Sample Analysis Report



**Risk
Management
Services**

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14 November 2007

Our ref: SJ0027:61344

Kieran McGuinness
Jones Lang Lasalle
Level 10, 45 Clarence Street
SYDNEY NSW 2000

Dear Kieran,

Re: Asbestos Identification Analysis - Level 15, 179 Elizabeth Street, Sydney NSW

This letter presents the results of asbestos fibre identification analysis performed on 3 samples collected by Andrew Brabek of Noel Arnold & Associates Pty Ltd on Wednesday, 14th November 2007. The samples were collected from Level 15, 179 Elizabeth Street, Sydney NSW.

All sample analysis was performed using polarised light microscopy, including dispersion staining in our Sydney Laboratory in accordance with Noel Arnold and Associates Pty Ltd Test Method NALAB 302 "Asbestos Identification Analysis" and following the guidelines of Australian Standard AS4964-2004.

The samples will be kept for six months and then disposed of, unless otherwise directed.

The results of the asbestos identification analysis are presented in the appended table.

Should you require further information please contact the undersigned.

Yours sincerely

NOEL ARNOLD & ASSOCIATES PTY LTD

Kimberley Femia: Approved Identifier

Kimberley Femia: Approved Signatory



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Site Location:		Level 15, 179 Elizabeth Street, Sydney NSW	
	Sample ID	Sample Location/Description/Weight or Size	Analysis Result
1	61344 01	Exterior, Balcony, Pointing around ceramic floor tiles - Mastic Grey rubbery compressed non-fibrous mastic material ~18 x 15 x 5 mm	No Asbestos Detected
2	61344 02	Exterior, Balcony, Pointing between concrete block work - Mastic Beige soft compressed non-fibrous mastic material ~35 x 20 x 1 mm	No Asbestos Detected
3	61344 03	Electrical Cupboard, Switch board - Electrical backing board Black coated amber compressed fibrous board-like insulation material ~8 x 4 x 1 mm	No Asbestos Detected

Asbestos Materials Survey Report

Jones Lang LaSalle

Level 15, 179 Elizabeth Street, Sydney NSW

Appendix C: Risk Assessment Factors

Risk Assessment Factors - Asbestos

To assess the health risk posed by the presence of asbestos-containing material, all relevant factors must be considered. These factors include:

- ☐ Evidence of physical damage;
- ☐ Evidence of water damage;
- ☐ Proximity of air plenums and direct air stream;
- ☐ Friability of asbestos material;
- ☐ Requirement for access for building operations;
- ☐ Requirement for access for maintenance operations;
- ☐ Likelihood of disturbance of the asbestos material;
- ☐ Accessibility;
- ☐ Exposed surface areas; &
- ☐ Environmental conditions.

These aspects are in turn judged upon; (i) potential for fibre generation, and, (ii) the potential for exposure. Where these factors have indicated that there is a possibility of exposure to airborne fibres, appropriate recommendations for repair, maintenance or abatement of the asbestos-containing materials are made.

Condition

The condition of the asbestos products identified during the survey is usually reported as either being good or poor.

- ☐ *Good* refers to asbestos materials, which have not been damaged or have not deteriorated.
- ☐ *Fair* refers to the asbestos material having suffered minor cracking or de-surfacing.
- ☐ *Poor* describes asbestos materials, which have been damaged, or their condition has deteriorated over time.

Friability

The friability of asbestos products describes the ease of which the material can be crumbled, and hence to release fibres.

- ☐ *Friable asbestos* (eg limpet beam insulation, pipe lagging) can be easily crumbled and is more hazardous than non-friable asbestos products.
- ☐ *Non-friable asbestos*, commonly known as bonded asbestos, is typically comprised of asbestos fibres tightly bound in a stable non-asbestos matrix.

Examples of non-friable asbestos products include asbestos cement materials (sheeting, pipes etc), asbestos containing vinyl floor tiles and electrical backing boards.

Accessibility/Disturbance Potential

Asbestos products can be classified as having low, medium or high accessibility/disturbance potential.

- ☐ *Low* accessibility describes asbestos products that cannot be easily disturbed, such as materials in building voids, set ceilings etc.
- ☐ *Medium* accessibility describes asbestos products that are visible but normal access is impeded, such as materials behind cladding material or is present in a ceiling space or are height restricted.
- ☐ *High* accessibility asbestos products can be easily accessed or damaged due to their close proximity to personnel, eg asbestos cement walls or down pipes.

Risk Status

The risk factors described above are used to rank the health risk posed by the presence of asbestos-containing materials.

- ☐ A *low* risk ranking describes asbestos materials that pose a low health risk to personnel, employees and the general public providing they stay in a stable condition, for example asbestos materials that are in good condition and have low accessibility.
- ☐ A *medium* risk ranking applies to materials that pose an increased risk to people in the area.
- ☐ Asbestos materials that possess a *high* risk ranking pose a high health risk to personnel or the public in the area of the material. Materials with a high risk ranking will also possess a Priority 1 recommendation to manage the asbestos and reduce the risk.

Priority Rating System for Control Recommendations - Asbestos

The following priority rating system is adopted to assist in the programming and budgeting of the control of asbestos risk identified at the site.

Priority 1: Hazard with Significant Risk Potential (Red)

An area has asbestos containing materials, which are either damaged or are being exposed to continual disturbance. Due to these conditions, there is an increased potential for exposure and/or transfer of the material to other parts with continued unrestricted use of this area. Representative asbestos fibre monitoring should be conducted in the building area during normal building operation where recommended. Prompt abatement of the asbestos hazard is recommended and instigation of control measures under an asbestos management plan.

Priority 2: Hazard with Elevated Risk Potential (Orange)

An area has asbestos containing materials with a potential for disturbance due to the following conditions:

- ☐ Material has been disturbed or damaged and its current condition, while not posing an immediate hazard, is unstable.
- ☐ The material is accessible and can when disturbed, present a short-term exposure risk.
- ☐ Demolition, renovation, refurbishment, maintenance, modification or new installations, involving air-handling system, ceilings, lighting, fire safety systems or floor layout.

Appropriate abatement measures should be taken at earliest possible convenient time. A negligible health risk exists if materials remain undisturbed under the control of an asbestos management plan.

Priority 3: Maintenance Controllable – Potential Hazard During Refurbishment (Yellow)

An area has asbestos-containing materials, where

- ☐ The condition of the friable asbestos material is now stable and has low potential of being disturbed or
- ☐ The material is currently in a non-friable condition and does not present an exposure risk unless cut, drilled, sanded or otherwise abraded.

Negligible health risks are present if materials are left undisturbed under the control of an asbestos management plan. Defer any major action unless materials are to be disturbed as a result of maintenance, refurbishment or demolition operations.

Asbestos Materials Survey Report

Jones Lang LaSalle

Level 15, 179 Elizabeth Street, Sydney NSW

Appendix D: General Asbestos Materials Information

Information on Common Asbestos Materials

Asbestos-containing materials can be classified into the following main categories:-

- ☐ Sprayed or trowelled asbestos materials applied to ceilings, walls and other surfaces for fire-rating purposes. This material is commonly referred to as limpet asbestos.
- ☐ Asbestos-containing insulation on pipes, boilers, tanks, ducts etc. which is often referred to as asbestos lagging.
- ☐ Asbestos cement products, Cementitious or concrete like products.
- ☐ Asbestos paper products, millboard in electrical switchboards or underlaying lining for linoleum or vinyl floor coverings.
- ☐ Asbestos textiles, braided asbestos, rope, tape, gaskets etc (note that rope and millboard are potentially friable).
- ☐ Vinyl tiles, linoleum and vinyl flooring mastic and associated adhesives.
- ☐ Asbestos-containing compounds, gaskets and mastic from mechanical fittings, and roofing membranes.
- ☐ Electrical switchboards containing compressed asbestos tar electrical boards, asbestos cement sheeting, asbestos rope to spark arresters and asbestos millboard from inside auxiliary switchboxes/fuse boards.
- ☐ Roofing sealants, bituminous membranes, tar composites and similar materials were occasionally mixed with asbestos materials.
- ☐ Some office furnishings such as wall partitions may contain an asbestos cement internal lining inside plaster or "Stramit" type panelling. Certain types of older vinyl covered desktops and workbenches may contain an underlying asbestos millboard lining.

Sprayed Asbestos Materials

Sprayed asbestos or limpet asbestos is most often found on structural steel members to provide a fire-rating. Limpet asbestos is a friable material. Friable materials are those which can easily be crumbled, pulverised or reduced to powder by hand pressure. Limpet asbestos tends to be the most friable of all asbestos-containing materials and can contain relatively high percentage of asbestos (30% - 90%).

Limpet asbestos can slowly release fibres as the materials age ie. As its friability increases. Direct mechanical damage or excessive machinery vibration can lead to more significant release of airborne asbestos fibres.

Asbestos Containing Lagging Materials

Insulation such as lagging usually contains a smaller percentage of asbestos (usually 20% - 50%). Protective jackets on the insulation materials (such as metal jacketing or calico on pipe lagging) prevent asbestos fibre release. Physical damage to the protective jacket however, may lead to the release of respirable fibres. The binding material in the insulation can deteriorate with age rendering it more friable.

Asbestos Cement Sheetting Materials

Asbestos cement products and asbestos gaskets generally do not present a significant health risk unless they are cut, sanded or otherwise disturbed so as to release asbestos dust. Fibre release due to occasional damage is negligible and thus not a significant health risk. Care must be taken therefore in the removal of asbestos cement products to avoid the release of airborne fibres. Unless analysis of fibro-cement products indicates otherwise, these materials should be considered as containing asbestos.

External asbestos cement claddings become weathered after many years by the gradual loss of cement from the exposed surface. This leaves loosely bound layers enriched with asbestos fibres. In other words, the material becomes more friable through the weathering process.

Asbestos Containing Vinyl Products

Vinyl tiles and linoleum flooring manufactured before 1984 may contain asbestos in various quantities in a well-bound cohesive matrix. Asbestos containing vinyl floor and wall coverings generally do not present a significant health risk unless they are sanded or otherwise mechanically abraded so as to release asbestos dust. Fibre release due to occasional damage is negligible and thus not a significant health risk. Care must be taken therefore, in the removal of asbestos containing vinyl tiles to avoid the release of airborne fibres. Unless analysis of vinyl tiles and linoleum flooring indicates otherwise, these materials should be considered as containing asbestos. Older bituminous adhesives may also contain asbestos and must be removed as an asbestos process in circumstance where the floor is to be renewed and re-levelled by floor sanding or grinding.

Asbestos Containing Gaskets

Gaskets and sealing compounds in equipment, duct work and re-heat air conditioning boxes may contain asbestos. These should be replaced with non-asbestos equivalents during routine maintenance. In addition, asbestos containing mastic and seals in air handling duct work joints. These usually do not pose a hazard as the asbestos fibres are firmly held within the plastic resinous compound and should be replaced as part of routine maintenance or removed during the demolition of the plant equipment.

Asbestos Insulation to Re-Heat Boxes

Insulation to internal lining of ductwork sections and electrical re-heat air conditioning boxes generally contain asbestos millboard. These should be replaced with non-asbestos equivalents during routine maintenance.

Asbestos Containing Mastics and Sealants

Many mastic and sealant products contain Chrysotile asbestos within the pliable, resinous matrix. The nature of the substrate is such that it does not readily dry out in situ, and therefore the fibres are well bound and pose a low risk.

Management of Asbestos Hazards

The health effects associated with asbestos exposure are due to the inhalation of airborne respirable asbestos fibres. In general, the asbestos fibres cannot be released to become airborne in significant quantities unless the asbestos-containing material is severely disrupted such as in the case of cutting asbestos cement products with power saws etc.

A range of control measures are available for the abatement of asbestos hazards. The selection of the appropriate control measure is based on the assessment risk for each specific location. These measures include:

- ☐ **Leave and maintain** in existing condition.
- ☐ **Repair and maintain** in good condition.
- ☐ **Enclose** asbestos or synthetic mineral fibre material by providing a barrier such as a box enclosure or steel cladding.
- ☐ **Remove** by approved methods under controlled conditions.
- ☐ **Labelling** of asbestos materials that are to remain in situ should be undertaken where practical to ensure that the asbestos materials are not damaged inadvertently by maintenance contractors etc.