1 Introduction

Prensa Pty Ltd (Prensa) was engaged by Jacobs to conduct a Hazardous Building Materials Assessment (Assessment) of nominated areas of the Cox Peninsula, Northern Territory (the Site). Jonathan Williams of Prensa conducted the Assessment from the 3-5 March 2015 at the request of William Rodger of Jacobs.

The objective of the Assessment was to identify accessible hazardous building materials on the soil surface and within the structures located at the site. The assessment was conducted in accordance with Part 8.6 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.6 of the Commonwealth, Health and Safety Regulations, 2011.

2 Scope of Works

It is understood that remedial works at the site are proposed to include the demolition of remaining buildings and infrastructure and are scheduled to commence in July 2015. This assessment was conducted in order to identify the nature and extent of Hazardous Building Materials prior to the commencement of demolition works. It should be noted the assessment was limited to the structures located at the site including the soil surface and did not represent an assessment of the soil subsurface.

Section 32 comprises the Wagait landfill, which is an active waste dump for the local town. Section 32 also comprises Area B and E1–E4. These areas comprise tip sites, building slabs and miscellaneous infrastructure including service pits and conduits. The site is currently leased in part by the Australian Communications and Media Authority (ACMA). It should be noted that no building structures were assessed within these areas.

The scope of the Assessment included the accessible interior and exterior of the structures and surface soil of the above areas.

Specifically, Prensa included the following hazardous building materials in the scope of this Assessment:

- Asbestos-containing materials (ACM);
- Synthetic mineral fibre (SMF) materials;
- Polychlorinated biphenyls (PCB) containing capacitors in electrical fittings;
- Lead-containing paint (LCP); and
- Ozone depleting substances (ODS).

The Assessment was conducted during normal business hours and the Site was unoccupied at the time of our inspection.

3 Site Description

Section 32 comprises the Wagait landfill (Area D), which is an active waste dump for the local town. It is understood that the Wagait landfill has previously contained numerous trenches ('cells') containing unknown waste material which have been covered with soil. It is understood that one cell is currently used to the south of the site with waste material evident on the surface throughout the area and in particular the north of the site. Section 32 also comprises Area B and E1–E3 as well as Area E which represents the broader extent of the cleared area at Section 32. These areas comprise tip sites, building slabs and miscellaneous infrastructure including service pits and conduits. It is understood that Thiess partially cleared the remote tip sites of material (including ACM) and transferred it to a containment cell at Section 34. The site is currently leased in part by the Australian Communications and Media Authority (ACMA).

4 Methodology

The Assessment comprised a review of relevant Site information made available to Prensa, interviews with available Site personnel and a visual inspection of accessible areas and destructive sampling techniques where necessary.

The methodology for assessing the hazardous building materials at the Site is presented in the following sections.

Asbestos-containing Materials – This component of the works was conducted to satisfy Part 8.6 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.6 of the Commonwealth, Health and Safety Regulations, 2011. When safe to do so, building materials that were suspected of containing asbestos were sampled at the discretion of the Prensa consultant. Samples of suspected ACM were analysed in Prensa's laboratory, which is NATA accredited to conduct asbestos bulk sample analysis. The analysis was conducted using polarised light microscopy including dispersion staining techniques.

Synthetic Mineral Fibres – This component of the Assessment was carried out in accordance with the guidelines documented in the *Code of Practice for the Safe Use of Synthetic Mineral Fibres* [NOHSC: 2006 (1990)]. This report broadly identifies SMF materials found or suspected of being present during the assessment and is based on a visual assessment.

Polychlorinated Biphenyls – Where safely accessible, specifications of capacitors incorporated in light fittings and ceiling fans were recorded and cross-referenced with the *ANZECC Identification of PCB-containing Capacitors information booklet* – 1997. Due to the danger of accessing electrical components, or for other reasons, such as height restrictions, some electrical fittings may not have been accessed. In these instances, comment is provided in the Assessment report on the likelihood of PCB-containing materials being present. This determination is based upon the age and appearance of the electrical fittings.

Lead-containing Paint – Representative painted surfaces were tested in locations for the presence of lead using the qualitative *LeadCheck* paint swab method. This method can detect lead in paint at concentrations of 0.5% and above, and may indicate lead in some paint films as low as 0.2%. It is noted that AS 4361.2 – 1998 *Guide to lead paint management – Part 2: Residential and commercial buildings* defines lead paint as paint with a lead content greater than 1% by dry weight. In some circumstances, laboratory analysis may be recommended to quantitatively determine the content of lead in the paint.

The sampling program attempts to be representative of the various types of paints found at the Site. However, particular attention is paid to areas where LCPs were more likely to have been used (e.g. exterior gloss paints, window and door architraves and skirting boards). The objective of LCP identification in this Assessment is to highlight the presence of LCP within the Site building(s), not to specifically identify every location of LCP.

Ozone Depleting Substances – This component of the Assessment comprised a visual inspection of air conditioning units and any chillers (if applicable) at the Site and included a review of the air conditioners' refrigerant types.

Where asbestos was found to exist, a risk assessment was conducted on each item and a priority rating applied. This was conducted in accordance with the protocols described in **Appendix A: Risk Assessment Factors and Priority Ratings.**

5 Findings

5.1 Document Review and Interviews

As part of this Assessment, Prensa requested copies of previous documentation pertaining to Hazardous building materials at the Site.

Jacobs made available to Prensa a survey report carried out by Parsons Brinckerhoff *(Reference – Hazardous Materials Register and Management Plan for site infrastructure at Section 32),* dated 12 October 2010. The report is understood to be the most recent survey report for this site and identified the following key findings:

- Non-friable asbestos in the form of cement sheet debris was identified throughout the site in the form of debris and external piping.

Reference has been made to the findings of this report and to the NATA accredited bulk sample analysis.

5.2 Analytical results

5.2.1 Asbestos Bulk Sample Analysis

A total of seven (7) samples suspected to contain asbestos were collected and submitted to Prensa's NATA accredited laboratory for analysis. The asbestos bulk sample analysis report is provided in **Appendix B: NATA Endorsed Laboratory Sample Analysis Report** of this Assessment report. In summary, five (5) samples were reported to contain asbestos.

5.3 Assessment Findings

The findings of this Assessment are presented in tabulated format in **Appendix C: Hazardous Building Materials Register** of this Assessment report. Hazardous building materials that have been photographed are depicted in **Appendix D: Photographs** of this Assessment report.

The following significant key findings are noted:

5.3.1 Asbestos-containing Materials

Table 1 below details the asbestos-containing materials (ACM) identified within each area of the Site as outlined in the Site Description.

Table 1: Details of ACM identified in each section of the Site

Section	Area	Findings
Section 32	**Wagait Landfill (Area D)**	Asbestos-containing debris is assumed to be present at the Wagait landfill site. It should be noted that this area is constantly transforming due to the transporting, burying and burning of waste. Furthermore, the cover changes from approximately November to April due to the wet season i.e. the area is overgrown with vegetation. This is particularly evident in the south-east corner of the site where it is understood that asbestos containing debris has previously been identified.
	Area B	Non-friable asbestos in the form of fibre cement sheet debris was identified on the surface of the ground throughout the site. Sample collection was conducted at representative areas at the site and the debris was observed to be extensive throughout.
	Area E1	• Non friable asbestos fibre cement sheet and corrugated cement sheet debris was identified on the surface of the ground throughout the site. Sample collection and visual observations were conducted within the 32 compound and outside of the 32 compound perimeter fence. Debris was observed to be extensive throughout the site; and • Non-friable asbestos moulded cement in the form of service pits and conduits were observed throughout the site. It is should be noted that these asbestos items were not sampled at the time of the assessment at the discretion of Jacobs. It is understood that these items have previously been identified by SKM in 2013 and have documented in this report.
	Area E2	A visual inspection of the ground surface was conducted throughout the site and no asbestos debris was visually identified.
	Area E3	A visual inspection of the ground surface was conducted throughout the site and no asbestos debris was visually identified.
	Area E4 (Broader Covered Area)	A visual inspection of the ground surface was conducted throughout the site and no asbestos debris was visually identified.

5.3.2 Synthetic Mineral Fibre Materials

SMF insulation material was identified in various forms as waste material throughout the Wagait landfill.

Refer to **Appendix C: Hazardous Building Materials Register** for the details of these findings.

5.4 Areas not Accessed

There was limited access to some sections of the surface soil throughout the site due to overgrown vegetation.

Areas that are generally not accessed as part of Prensa's assessments are listed in **Appendix E: Areas Not Accessed**. Site-specific areas that were inaccessible during Prensa's Assessment and were deemed likely to contain asbestos are also listed in this **Appendix C: Hazardous Building Materials Register**.

6 Discussions

The proposed site use is an important factor in determining the appropriate management of asbestos contaminants at the site. It is understood that proposed activities will comprise mainly of planting trees and the likely disturbance from these activities will include walking and driving on the surface and the disturbance of the top soil through planting of the roots into the ground. These proposed activities will likely cause minimal disturbance to the soil.

The findings of this report indicated that asbestos fibre cement debris was identified throughout the surface of the Site. Asbestos fibre cement is a non-friable product with the asbestos fibres secured tightly within its matrix and poses a relatively low risk if left undisturbed. It should be noted that even though the asbestos fibre cement debris was observed to be weathered and some examples have the potential to be friable, considering the extent of the debris compared to the surface area and the current and proposed limited site use, the surface debris is unlikely to represent a significant risk.

Based on previous knowledge provided by Jacobs, including previous reports, site histories and Prensa's visual observations it is believed that additional investigations into the extent of asbestos are not required. It can be assumed that asbestos is present within the subsurface of the soil and the findings and observations are considered appropriate to adopt a remedial management approach at the site.

It is understood that previous asbestos removal has been undertaken to remove surface asbestos debris; however, due to the excessive rainfall during the wet season the top soil has eroded exposing asbestos debris that was present beneath the surface. These additional asbestos finds have been highlighted in this report. It can be assumed that due to the continual erosion of top soil during the wet season it is considered likely that further asbestos debris will be exposed following any surface removal works and a management approach should be adopted where the site is re-inspected annually to monitor the presence and extent of any potential further asbestos debris.

The *National Environment Protection (Assessment of Site Contamination) Measure 1999* (April 2013) identifies that the top 10cm of soil should be free of asbestos debris as far as is reasonably practicable, however, Prensa believe that removing potential subsurface asbestos is not practicable due to the large coverage of the surface area and considering the proposed site activities. Furthermore, buried asbestos debris is unlikely to represent a significant risk as the soil acts a natural barrier encapsulating the asbestos preventing the potential of asbestos fibres to become airborne.

Prensa believe that while asbestos surface debris is unlikely to represent a significant risk for the proposed site use, the presence of asbestos debris on the surface is not appropriate considering the uncertainty and anxiety it may cause to the future occupants of the site. Furthermore, Part 8.6 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.6 of the Commonwealth, Health and Safety Regulations, 2011 indicates that asbestos should be removed as far as is reasonably practicable prior to any potential disturbance. Furthermore, the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (April 2013) indicates that the aesthetics of the Site require consideration when evaluating the significance of contamination. In the context of the Site, the presence of debris may affect the visual aesthetics of the Site. Therefore, consideration should be given to removing the waste, including asbestos waste, from areas beyond the dedicated waste areas.

Based on the anecdotal history of the Wagait landfill in Secton 32 and the findings of Prensa's visual inspection, it is considered likely that buried waste within the cells at the Site contains asbestos. As previously discussed, buried asbestos debris is unlikely to represent a significant risk as the soil acts a natural barrier encapsulating the asbestos preventing the potential of asbestos fibres to become airborne, however, any excavation or disturbance of the landfill should be restricted.

Prensa acknowledge that while there is some uncertainty regarding the presence and extent of subsurface asbestos, based on previous knowledge provided by Jacobs and Prensa's visual observations it is assumed that subsurface asbestos is present.

Consideration must be given to the waste management practices implemented at the Site in the future. While the amount of asbestos entering the landfill is not considered significant, some controls are required to support the continued disposal of asbestos at the landfill. Provisions exist under Northern Territory EPA Guidelines to accept asbestos at Wagait Landfill under certain circumstances. These are outlined in the following EPA Publications.:

- Guidelines for the Siting, Design and Management of Solid Waste Disposal Sites (January 2013); and
- Waste Management Guidelines for Small Communities in the Northern Territory (2009).

Based on a review of the documentation, if the landfill supports a community of less than 1,000 people, asbestos can be managed at the Site, subject to the implementation of management controls. The controls are specified in the documentation and include:

- Asbestos must be separated from the general waste;
- Signage must be provided to alert contractors and visitors of the presence of asbestos; and
- The quantity and location of asbestos must be recorded.

7 Conclusions

Based on the findings of Prensa's assessment a risk based management approach should be adopted for the asbestos at the site due to the uncertainties surrounding the extent and to minimize the potential risk of exposure asbestos. The following points highlight the main findings of the assessment:

- Surface asbestos debris should be removed by a Class A Licensed asbestos removalist;
- Subsurface asbestos at the site debris is unlikely to represent a significant risk as the soil acts a natural barrier encapsulating the asbestos preventing the potential of asbestos fibres to become airborne;
- The proposed activities at the site is likely to cause minimal disturbance to the top soil and unlikely to represent a significant risk from potential subsurface asbestos;
- The approach in accepting and managing asbestos waste must be reviewed with reference to published guidance; and
- An Asbestos Management Plan (AMP) should be created and maintained for asbestos-containing materials that remain at the site to assist the site controller with the management of these materials.

8 Management Options

As per state legislation, all materials suspected of containing asbestos must be identified and recorded in a register. Furthermore, a risk assessment must be conducted of each hazardous

building material and appropriate control measures implemented. The control measures have been determined based on reducing the risk of exposure, so far as is reasonably practicable. The control measures, which were determined by a competent person and/or hygienist, need to reflect the hierarchy of control outlined in specific state legislation and is as follows:

1. **Elimination**/removal (most preferred);
2. **Substitution**;
3. **Isolation**, such as erection of permanent enclosures encasing the material;
4. **Engineering** controls, such as negative air pressure enclosures for removal works, HEPA filtration systems;
5. **Administrative** controls – including the incorporation of registers and management plans, the use of signage, personnel training, safe work procedures, regular re-inspections and registers; and
6. The use of **Personal Protective Equipment** (PPE) (least preferred).

To manage the hazardous building materials, a combination of the above techniques may be required.

9 Site Specific Recommendations

Based on the findings of this Assessment, it is recommended that the following control measures be adopted as part of the management of the hazardous building materials at the Site. Recommendations for specific items of hazardous building materials are also presented in **Appendix C: Hazardous Building Materials Register** of this Assessment report.

9.1 Asbestos-containing Materials (ACM)

Surface asbestos debris

- Visible asbestos debris identified on the surface of the soil should be removed by a Class A licensed asbestos removal contractor under controlled asbestos removal working conditions. The removal works should be undertaken in accordance with Part 8.7 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.7 of the Commonwealth, Health and Safety Regulations, 2011. The removal methods should aim to achieve the objectives outlined in the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (April 2013);
- The prohibitions on the re-use and storage of soils that are known to contain asbestos waste should be in accordance with Part 8.7 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.7 of the Commonwealth, Health and Safety Regulations, 2011; and
- Due to the changing topography of the Site, an annual inspection of the areas where asbestos debris has been identified should be conducted by a hygienist to determine whether further debris has been uncovered from beneath the soil surface due to the change in seasons. This should preferably be conducted in the dry season (May – September) when the vegetation has subsided.

Wagait landfill

- Excavation and sub-surface works within the buried 'cells' at the site should be restricted;

- The future practice of asbestos disposal at the landfill should be evaluated in light of the Northern Territory EPA Publications:
    - *Guidelines for the Siting, Design and Management of Solid Waste Disposal Sites* (January 2013); and
    - *Waste Management Guidelines for Small Communities in the Northern Territory* (2009).
- If asbestos management is to continue at the facility, this should be confirmed with the local council and/or regulator;
- Subject to the discussions recommended above, if the asbestos is to be managed on Site, the following protocols must be implemented to satisfy the aforementioned guidelines. This would include, but not be limited to:
    - Appropriate signage;
    - Adoption of documented burial procedures;
    - Isolation from other, general waste streams; and
    - Documentation of asbestos inventory and locations (GPS co-ordinates).
- Due to the changing topography of the Site, an annual inspection of the areas where asbestos debris has been identified should be conducted by a hygienist to determine whether further debris has been uncovered from beneath the soil surface due to the change in seasons. This should preferably be conducted in the dry season (May – September) when the vegetation has subsided.

General recommendations

- An Asbestos Management Plan (AMP) should be created and maintained for asbestos-containing materials that remain at the site to assist the site controller with the management of these materials. As an initial step to the development of the AMP, a register of asbestos-containing building materials present at the Site must be developed and maintained. The AMP must ensure that suitable control measures are implemented to prevent Site personnel and others from being exposed to airborne asbestos fibre;
- Asbestos-containing building materials should be removed prior to demolition works. The asbestos removal works should be conducted by an appropriately licensed asbestos removal contractor under controlled asbestos removal working conditions;
- Asbestos-containing building materials that are likely to be disturbed should be removed prior to demolition works. The asbestos removal works should be conducted by an appropriately licensed asbestos removal contractor under controlled asbestos removal working conditions;
- Prensa recommends that airborne asbestos monitoring should be conducted during the asbestos removal process along the boundary of the work area;
- An asbestos hygienist who is independent of the asbestos removalist should be engaged by Jacobs to conduct a clearance inspection at the completion of the asbestos removal works;
- The asbestos hygienist should provide a Clearance Certificate to Jacobs that documents his/her clearance inspection and the satisfactory completion of the asbestos removal works. The Clearance Certificate should state that all visible asbestos residue resulting from the asbestos removal process has been removed from the asbestos removal area(s) and from areas adjacent to the asbestos removal area(s);

- During demolition works, if any materials that are not referenced in this report and are suspected of containing asbestos are encountered, then works must cease and an asbestos hygienist should be notified to determine whether the material contains asbestos; and
- Identify asbestos-containing materials that are to remain *in situ* to warn of the dangers of disturbing these materials.

9.2 Synthetic Mineral Fibre Materials

SMF materials that are likely to be disturbed during any proposed demolition works should be handled in accordance with the National *Code of Practice for the Safe Use of Synthetic Mineral Fibres* [NOHSC:2006(1990)].

Appendix A: Risk Assessment Factors and Priority Ratings

Risk Assessment Factors

To assess the health risk posed by the presence of hazardous building materials, all relevant factors must be considered. These factors include:

- Product type;
- Condition;
- Disturbance potential;
- Friability of the material;
- Proximity to direct air stream; and
- Surface treatment (if any).

The purpose of the material risk assessment is to establish the relative risk posed by specific hazardous building materials identified in this assessment. The following risk factors are defined to assist in determining the relative health risk posed by each item.

Condition

The condition of the hazardous building materials identified during the assessment is reported as being **good**, **fair** or **poor**.

- **Good** refers to a material that is in sound condition with no or very minor damage or deterioration.
- **Fair** refers to a material that is generally in a sound condition, with some areas of damage or deterioration.
- **Poor** refers to a material that is extensively damaged or deteriorated.

Friability

The friability of a material describes the ease by which the material can be crumbled, which in turn, can increase the release of fibres into the air. Therefore, friability is only applicable to asbestos and SMF.

- **Friable asbestos** can be crumbled, pulverised, or reduced to powder by hand pressure, which makes it more dangerous than non-friable asbestos.
- **Non-friable asbestos**, more commonly known as bonded asbestos, is typically comprised of asbestos fibres tightly bound in a non-asbestos matrix. If accidentally damaged or broken these ACM may release fibres initially but will not continue to do so.
- **Bonded** SMF describes a synthetic fibrous material which has a specific designed shape and exists within a stable manufactured product. **Un-bonded** SMF is a loosely packed synthetic fibrous material which has no adhesive or cementitious binding properties.

Disturbance Potential

Hazardous building materials can be classified as having low, medium or high disturbance potential.

- **Low disturbance potential** describes materials that have very little or no activity in the immediate area with the potential to disturb the material. Low accessibility is considered as monthly occupancy or less, or inaccessible due to its height or its enclosure.
- **Medium disturbance potential** describes materials that have moderate activity in the immediate area with the potential to disturb the material. Medium accessibility is considered weekly access or occupancy.
- **High disturbance potential** describes materials that have regular activity in the immediate area with the potential to disturb the material.

Health Risk Status

The risk factors described above are used to grade the potential health risk ranking posed by the presence of the materials. These risk rankings are described below:

- A **low health risk** describes a material that poses a negligible or low health risk to occupants of the area due to the materials not readily releasing fibres (or other toxic/hazardous constituents) unless seriously disturbed.
- A **medium health risk** describes a material that pose a moderate health risk due to the material status and activity in the area.
- A **high health risk** describes a material that pose a high health risk to personnel or the public in the area of the material.

ACM Priority Rating System for Control Recommendations

While an assessment of health risk has been made, our recommendations have been prioritised based on the practicability of a required remedial action. In determining a suitable priority ranking, consideration has been given to the following:

- Level of health risk posed by the asbestos containing material;
- Potential commercial implications of the finding; and
- Ease of remediation.

As a guide the recommendation priorities have been given a timeframe as follows:

Priority 1 (P1):	**ACM with High Risk Potential** - Requiring immediate action

Status: 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 of the property if unrestricted use of the area containing the material is allowed.

Recommendation: If the asbestos-containing material is in a poor/unstable condition and accessible with risk to health from exposure, immediate access restrictions to the immediate area should be applied, air monitoring should be considered and removal is recommended as soon as practicable using an appropriately licensed asbestos removalist.

Priority 2 (P2):	**ACM with Medium Risk Potential –** May require action in the short term

Status: 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 risk, is unstable.
- The material is accessible and can, when disturbed, present a short-term exposure risk.
- The material could pose an exposure risk if workers are in close proximity.

Recommendation: If the asbestos-containing material is easily accessible but in a stable condition, removal is preferred. However, if removal is not immediately practicable, short-term control measures (i.e. restrict access, sealing, enclosure etc.) may be employed until removal can be facilitated as soon as is practical. Negligible health risk if material remains undisturbed under the control of an asbestos materials management plan.

Priority 3 (P3):	**ACM with Low Risk Potential** – May require action in the medium term

Status: Asbestos-containing materials with a low potential for disturbance due to the following conditions:

- The condition of any friable asbestos-containing material is stable and has a low potential for disturbance i.e. is encased in metal cladding.
- The asbestos-containing material is in a non-friable condition, however further disturbance or damage is unlikely other than during maintenance or service and does not present an exposure risk unless cut, drilled, sanded or otherwise abraded.

Recommendation: Minor health risks if the material is left undisturbed under the control of an asbestos-containing materials management plan. Consider removal or encapsulation within 12 months of the damaged bonded asbestos-containing materials being identified.

Priority 4 (P4):	**ACM with Negligible (very low) Risk Potential** - Requiring ongoing management or longer term remedial action

Status: The asbestos-containing material is in a non-friable form and in good condition. It is unlikely that the material can be disturbed under normal circumstances. Even if it were subjected to minor disturbance the asbestos-containing material poses a minor health risk.

Recommendation: These asbestos-containing materials should be left in a good and stable condition, with ongoing maintenance and periodic inspection. It is advisable that any remaining identified or assumed asbestos-containing materials should be appropriately labelled, where possible, and regularly inspected to ensure they are not deteriorating resulting in a potential risk to health.

Appendix B: NATA Endorsed Laboratory Sample Analysis Report

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ABN: 12 142 106 581

J0023:JLW
17069-001 Section 32 BSA 05032015.xlsm

11 March 2015

William Rodgers
Jacobs
Level 11, 452 Flinders Street
Melbourne VIC 3000

Dear William,

Asbestos Bulk Sample Analysis Report

Nominated areas, Section 32, Cox Peninsula, Northern Territory

Please find attached the asbestos bulk sample analysis results of the 7 samples collected by Jonathan Williams of Prensa Pty Ltd for Nominated areas, Section 32, Cox Peninsula, Northern Territory on 5 March 2015 and received at the Prensa Pty Ltd laboratory (GF, 261-271 Wattletree Road, Malvern, VIC, 3144) on 10 March 2015. The samples were analysed on 11 March 2015 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's National Association of Testing Authorities (NATA), Australia approved PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories* .

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Ravi Henderson
Prensa Signatory

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Asbestos Bulk Sample Analysis Report

Nominated areas, Section 32, Cox Peninsula, Northern Territory

Sample No	Sample Location / Description / Size	Result
17069 - 001 - 025	Section 32 - Area B, external, south-east corner, debris, fibre cement sheet Grey fibrous cement material 25 x 15 x 2 mm	***Chrysotile (white asbestos) detected*** ***Amosite (brown asbestos) detected*** ***Crocidolite (blue asbestos) detected***
17069 - 001 - 026	Section 32 - Area B, external, east area, debris, fibre cement sheet Grey fibrous cement material 45 x 35 x 5 mm	***Chrysotile (white asbestos) detected*** ***Amosite (brown asbestos) detected***
17069 - 001 - 027	Section 32 - Area E1, external, south-east corner, debris, fibre cement sheet Grey fibrous cement material 35 x 30 x 5 mm	***Chrysotile (white asbestos) detected*** ***Amosite (brown asbestos) detected*** ***Crocidolite (blue asbestos) detected***
17069 - 001 - 028	Section 32 - Area E1, external, north-west corner, debris, fibre cement sheet Grey fibrous cement material 50 x 40 x 10 mm	***Chrysotile (white asbestos) detected*** ***Amosite (brown asbestos) detected***
17069 - 001 - 029	Section 32 - Area E1, external, inside 32 compound - concrete slab, debris, fibre cement sheet Grey fibrous cement material 55 x 25 x 5 mm	***Chrysotile (white asbestos) detected***
17069 - 001 - 030	Section 32 - Area E1, external, inside 32 compound - concrete slab, floor, bituminous material Black bituminous material 50 x 20 x 10 mm	No asbestos fibres detected
17069 - 001 - 031	Section 32 - Wagait Landfill, external, north-east adjacent roadside, debris, fibre cement sheet Grey fibrous cement material 55 x 45 x 10 mm	No asbestos fibres detected Organic fibres detected

Only the samples submitted for analysis have been considered in presenting these results.

Appendix C: Hazardous Building Materials Register

Key to asbestos-containing materials priority risk rating:	
Priority 1 (P1):	High Priority - Requiring immediate action
Priority 2 (P2):	Medium Priority – May require action in the short term
Priority 3 (P3):	Low Priority – May require action in the medium term
Priority 4 (P4):	Very Low Priority - Requires ongoing management or longer term remedial action

Prensa Pty Ltd.
261-271 Wattletree Road
Malvern, VIC 3144
Ph.: (03) 9508 0100

Client: Jacobs Pty Ltd **Site Name:** Section 32, Cox Peninsula **Site Address:** Cox Peninsula, Northern Territory **Client No:** J0023 **Job No:** 17069

Area / Level	Room & Location	Feature	Item Description	Hazard Type	Sample No.	Sample Status	Friability	Disturb. Potential	Condition	Risk Status	Quantity	Recommendations & Comments	Control Priority	Reinspect date	Photo No.
Section 32 - Area B															
External	South-east corner	Debris	Fibre cement sheet	Asbestos	17069-001-025	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	1
External	East area	Debris	Fibre cement sheet	Asbestos	17069-001-026	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	2
External	Central area	Debris	Fibre cement sheet	Asbestos	Reference: 17069-001-026	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	3
External	North-west area	Debris	Fibre cement sheet	Asbestos	Reference: 17069-001-026	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	4
Section 32 - Area E1															
External	South-east corner	Debris	Fibre cement sheet	Asbestos	17069-001-027	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	5
External	North-west corner	Debris	Fibre cement sheet	Asbestos	17069-001-028	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	6
External	North central area	Debris	Fibre cement sheet	Asbestos	Reference: 17069-001-028	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	7
External	West area	Debris	Fibre cement sheet	Asbestos	Reference: 17069-001-028	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	8
External	East of 32 compound	Debris	Fibre cement sheet	Asbestos	Reference: 17069-001-028	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	9
External	North-west corner of 32 compound	Debris	Fibre cement sheet	Asbestos	Reference: 17069-001-028	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	10
External	East of 32 compound	Pipe in drainage area	Moulded fibre cement	Asbestos	Reference: 17069-001-028	Positive	Non-friable	Low	Poor	Low	1 m	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	11
External	Inside 32 compound, on concrete slab	Debris	Fibre cement sheet	Asbestos	17069-001-029	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	13
External	Inside 32 compound, on concrete slab	Debris	Fibre cement sheet	Asbestos	Reference: 17069-001-029	Positive	Non-friable	Low	Poor	Low	< 1 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	14
External	Inside 32 compound, on concrete slab	Floor	Bituminous material	Asbestos	17069-001-030	Negative	-	-	-	-	< 1 m^2	-	-	-	-
External	Inside 32 compound, on concrete slab	Debris	Fibre cement sheet	Asbestos	Reference: 17069-001-029	Positive	Non-friable	Low	Poor	Low	3 m^2	Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P3	-	15

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Area / Level	Room & Location	Feature	Item Description	Hazard Type	Sample No.	Sample Status	Friability	Disturb. Potential	Condition	Risk Status	Quantity	Recommendations & Comments	Control Priority	Reinspect date	Photo No.
External	Inside and ouside of 32 compound	Conduit	Moulded fibre cement	Asbestos	Reference SKM sample: ASB1	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Conduit	Moulded fibre cement	Asbestos	Reference SKM sample: ASB2	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB3	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB4	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB5	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB6	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB7	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB8	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Conduit	Moulded fibre cement	Asbestos	Reference SKM sample: ASB9	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB10	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB11	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB12	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB13	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-

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Area / Level	Room & Location	Feature	Item Description	Hazard Type	Sample No.	Sample Status	Friability	Disturb. Potential	Condition	Risk Status	Quantity	Recommendations & Comments	Control Priority	Reinspect date	Photo No.
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB14	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
External	Inside and ouside of 32 compound	Service pits	Moulded fibre cement	Asbestos	Reference SKM sample: ASB15	Positive	Non-friable	Low	Good	Low	< 3 m^2	Maintain in current condition if to remain in-situ. Remove under controlled bonded asbestos removal conditions prior to refurbishment or demolition works by a Class B (bonded) licensed asbestos removal contractor.	P4	-	-
Section 32 - Area E2															
External	Throughout	-	-	-	-	-	-	-	-	-	-	No asbestos debris was visually identified on the surface of the soil at the time of Assessment	-	-	-
Section 32 - Area E3															
External	Throughout	-	-	-	-	-	-	-	-	-	-	No asbestos debris was visually identified on the surface of the soil at the time of Assessment	-	-	-
Section 32 - Area E4															
External	Throughout	-	-	-	-	-	-	-	-	-	-	No asbestos debris was visually identified on the surface of the soil at the time of Assessment	-	-	-
Section 32 - Wagait Landfill															
External	South-east corner	Debris	Fibre cement sheet	Asbestos	-	Assumed Positive	Non-friable	Low	Poor	Low	Indeterminate	The surface area has significant amounts of vegetation and access was limited to inspect the soil surface. Based on Prensa's understanding of the site and its history, it is considered likely that asbestos debris is present on the soil surface and within the profile of the fill. Removal visible surface asbestos debris by a Class A licensed asbestos removalist	P3	-	16
External	North-east area adjacent roadside	Debris	Fibre cement sheet	Asbestos	17069-001-031	Negative	-	-	-	-	2 m^2	-	-	-	-
External	North-west perimeter of landfill	Debris	Fibre cement sheet	Asbestos	-	Assumed Positive	Non-friable				Indeterminate	Based on Prensa's understanding of the site and its history, it is considered likely that asbestos debris is present on the soil surface and within the profile of the fill. Remove visible surface asbestos debris by a Class A licensed asbestos removalist.	P4		17
External	Throughout	Various waste products	Insulation material	SMF	-	Positive	Bonded	Low	Poor	Low	25m^2	Maintain in current condition if to remain in-situ. Remove under controlled SMF conditions as per Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006 (1990)].	-	-	-

Appendix D: Photographs

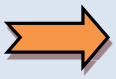
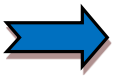
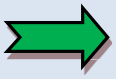
KEY	
	Confirmed or assumed ACM
	Confirmed or suspected other hazardous material type (SMF; PCB & lead paint)
	Confirmed or suspected non-ACM or other non-hazardous material

Photo 1. Section 32 – Area B, external, south-east corner, debris – **asbestos** fibre cement sheet. Sample: 17069-001-025.

Photo 2. Section 32 – Area B, external, east area, debris – **asbestos** fibre cement sheet. Sample: 17069-001-026.

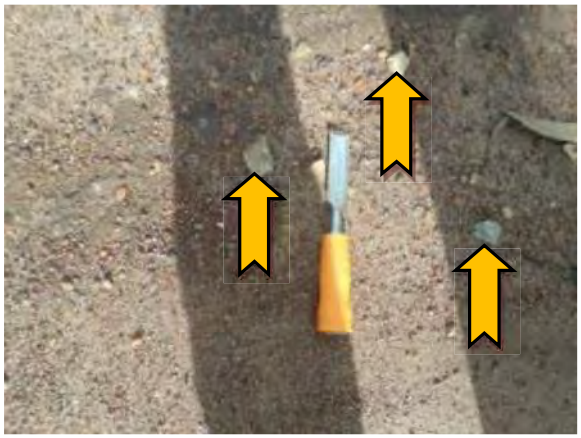


Photo 3. Section 32 – Area B, external, central area, debris – **asbestos** fibre cement sheet. Reference: 17069-001-026.

Photo 4. Section 32 – Area B, external, central area, debris – **asbestos** fibre cement sheet. Reference: 17069-001-026.

Photo 5. Section 32 – Area E1, external, south-east corner, debris – **asbestos** fibre cement sheet. Sample: 17069-001-027.

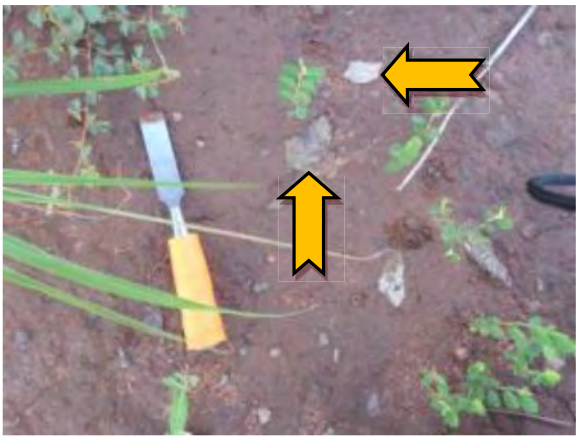


Photo 6. Section 32 – Area E1, external, north-west corner, debris – **asbestos** fibre cement sheet. Sample: 17069-001-028.

Photo 7. Section 32 – Area E1, external, north central area, debris – **asbestos** fibre cement sheet. Reference: 17069-001-028.

Photo 8. Section 32 – Area E1, external, west area, debris – **asbestos** fibre cement sheet. Reference: 17069-001-028.

Photo 9. Section 32 – Area E1, external, east of 32 compound, debris – **asbestos** fibre cement sheet. Reference: 17069-001-028.

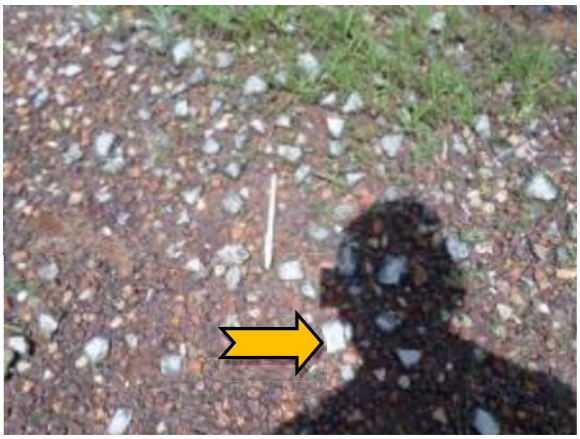


Photo 10. Section 32 – Area E1, external, north-west corner of 32 compound, debris – **asbestos** fibre cement sheet. Reference: 17069-001-028.

Photo 11. Section 32 – Area E1, external, east of 32 compound, pipe in drainage area – **asbestos** moulded fibre cement. Reference: 17069-001-028.

Photo 12. Section 32 – Area E1, external, various locations, service pits – **asbestos** moulded fibre cement.

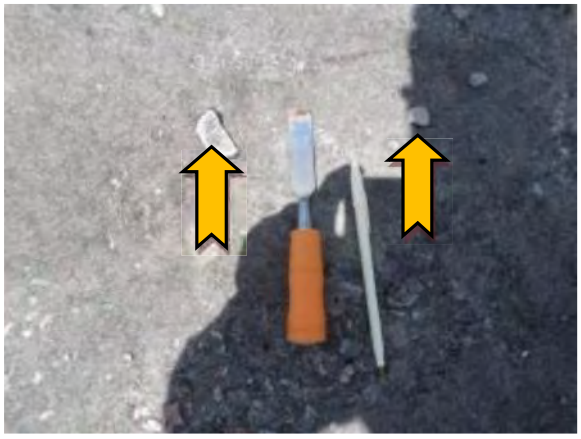


Photo 13. Section 32 – Area E1, external, inside 32 compound, debris – **asbestos** fibre cement sheet. Sample: 17069-001-029.

Photo 14. Section 32 – Area E1, external, inside 32 compound, debris – **asbestos** fibre cement sheet. Reference: 17069-001-029.

Photo 15. Section 32 – Area E1, external, inside 32 compound, debris – **asbestos** fibre cement sheet. Reference: 17069-001-029.

Photo 16. Section 32 – Wagait Landfill, external, south-east corner, debris – Assumed **asbestos** fibre cement sheet.

Photo 17. Section 32 – Wagait Landfill, external, north-west perimeter of landfill, debris – assumed **asbestos** fibre cement sheet.

Appendix E: Areas Not Accessed

Given the constraints of practicable access encountered during this Assessment, the following areas were not inspected. Assessments are restricted to those areas that are reasonably accessible at the time of our Assessment with respect to the following:

- Without contravention of relevant statutory requirements or codes of practice.
- Without placing the Prensa consultant and/or others at undue risk.
- Without demolition or damage to finishes and structure.
- Excluding plant and equipment that was 'in service' and operational.

Documented below are the areas where the Prensa consultant encountered access restrictions during the Assessment:

Areas Not Accessed
There was limited access to the surface of the soil throughout the site due to overgrown vegetation.
Underneath the concrete slab of all building structures at the Site.
Exposed soils surrounding the building structures of the Site.
Energised services, gas, electrical, pressurised vessel and chemical lines.
Height restricted areas above 2.7m or any area deemed inaccessible without the use of specialised access equipment.
Within cavities that cannot be accessed by the means of a manhole or inspection hatch.
Within voids or internal areas of plant, equipment, air-conditioning ducts etc.
Within service shafts, ducts etc., concealed within the building structure.
Within those areas accessible only by dismantling equipment.
Within totally inaccessible areas such as voids and cavities present but intimately concealed within the building structure.
All areas outside the Scope of Work.

Note: If proposed works entail possible disturbance of any suspect materials in the above locations, or any other location not mentioned in **Appendix C: Hazardous Building Materials Register,** further investigation may be required as part of a hazardous building materials management and abatement program prior to the commencement of such works.

The presence of residual asbestos insulation on steel members, concrete surfaces, pipe work, equipment and adjacent areas remaining from prior removal works cannot normally be determined without extensive removal and damage to existing insulation, fixtures and fittings at the Site.

C.2 Section 34 and Section 41

Hazardous Building Materials Assessment Nominated areas of Cox Peninsula Northern Territory

Jacobs

March 2015

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Job No: 17069 : Client No: J0023

Executive Summary

Prensa Pty Ltd (Prensa) was engaged by Jacobs to conduct a Hazardous Building Materials Assessment (Assessment) of nominated areas of the Cox Peninsula, Northern Territory (the Site).

The objective of the Assessment was to identify accessible hazardous building materials on the soil surface and within the structures located at the site. The assessment was conducted in accordance with Part 8.6 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.6 of the Commonwealth, Health and Safety Regulations, 2011.

It is understood that remedial works at the site are proposed to include the demolition of all remaining buildings and infrastructure and are scheduled to commence in July 2015. This assessment was conducted in order to identify the nature and extent of Hazardous Building Materials prior to the commencement of demolition works. It should be noted the assessment was limited to the structures located at the site including the soil surface and did not represent an assessment of contamination within the profile of the soil.

The Site comprises two (2) specific areas located at the Cox Peninsula which include remote tip sites, communications buildings, building slabs and miscellaneous infrastructure.

The scope of the Assessment included the accessible interior and exterior of the structures and surface soil of the following areas:

- Section 34 and 41

Further specific details of the above listed areas are highlighted in Section 3, Site Description in the main body of this report.

The following hazardous building materials were identified at the time of the Assessment:

Cox Peninsula	Asbestos-containing Materials		Synthetic Mineral Fibre	Poly-chlorinated Biphenyls	Lead-containing Paint	Ozone Depleting Substances
	Non-friable	Friable				
Section 34	✓	✓	✓	-	✓	-
Section 41	✓	✓	-	-	-	-

The following significant key findings are noted:

- Friable asbestos insulation debris was identified on the surface of the ground adjacent to the former switchboard hut within the Section 34 compound;
- Asbestos fibre cement sheet and moulded cement debris was identified throughout the surface of Section 34 and 41. Asbestos fibre cement sheet debris was observed to be weathered and some examples may have the potential to be friable;
- Friable asbestos millboard insulation was identified within redundant fuses within Section 34 Administration and Transmitter building; and
- Significant amounts of non-friable asbestos in the form of asbestos fibre cement sheet, moulded cement sheet, vinyl wall tiles and mastic were observed within the administration building and the transmitter building.

Recommendations

The following key recommendations are provided for the management of hazardous building materials:

Surface asbestos debris

Visible asbestos debris identified on the surface of the soil should be removed by a Class A licensed asbestos removal contractor under controlled asbestos removal working conditions. The removal works should be undertaken in accordance with Part 8.7 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.7 of the Commonwealth, Health and Safety Regulations, 2011. The removal methods should aim to achieve the objectives outlined in the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (April 2013).

Administration and Transmitter buildings

Asbestos-containing building materials should be removed prior to demolition works. The asbestos removal works should be conducted by an appropriately licensed asbestos removal contractor under controlled asbestos removal working conditions.

A number of other recommendations were made in the body of this report which address the ongoing management of hazardous building materials at this site.

This executive summary must be read in conjunction with this entire report.

Statement of Limitations

This document has been prepared in response to specific instructions from Jacobs to whom the report has been addressed. The work has been undertaken with the usual care and thoroughness of the consulting profession. The work is based on generally accepted standards and practices of the time the work was undertaken. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The report has been prepared for the use by Jacobs and the use of this report by other parties may lead to misinterpretation of the issues contained in this report. To avoid misuse of this report, Prensa advise that the report should only be relied upon by Jacobs and those parties expressly referred to in the introduction of the report. The report should not be separated or reproduced in part and Prensa should be retained to assist other professionals who may be affected by the issues addressed in this report to ensure the report is not misused in any way.

Unless otherwise stated in this report, the scope is limited to fixed and installed materials and excludes buried waste materials, contaminated dusts and soils.

Unless expressly stated it is not intended that this report be used for the purposes of tendering works. Where this is the intention of Jacobs this intention needs to be communicated with Prensa and included in the scope of the Proposal.

Prensa is not a professional quantity surveyor (QS) organisation. Any areas, volumes, tonnages or any other quantities noted in this report are indicative estimates only. The services of a professional QS organisation should be engaged if quantities are to be relied upon.

Sampling Risks

It is noted that while the assessment has attempted to locate the asbestos-containing materials within the building(s), the investigation was limited to only a visual assessment and limited sampling program and/or the review and analysis of previous reports made available. Prensa notes that sampling is representative only and that due to the lack of homogeneity of building materials it is possible that sampling has not detected all asbestos within the nominated locations.

Given that a representative sampling program has been adopted, not all materials suspected of containing asbestos and that at the time of the investigation were sampled and assessed. It is noted that some asbestos materials may have been assumed to contain asbestos based on their similar appearance to previously sampled materials.

Therefore, it is possible that asbestos materials, which may be concealed within inaccessible areas/voids, may not have been located during the investigation. Such areas include, but are not limited to:

- Materials concealed behind structural members and within inaccessible building voids;
- Areas inaccessible without the aid of scaffolding or lifting devices;
- Areas below ground;
- Inaccessible ceiling or wall cavities;
- Areas which require substantial demolition to access;
- Areas beneath floor covering where asbestos-containing materials were not expected to exist;
- Materials contained within plant and not accessible without dismantling the plant; and
- Areas where access is restricted due to locked doors, safety risks, or being occupied at the time of the investigation.

Reliance on Information Provided by Others

Prensa notes that where information has been provided by other parties in order for the works to be undertaken, Prensa cannot guarantee the accuracy or completeness of this information. Jacobs therefore waives any claim against the company and agrees to indemnify Prensa for any loss, claim or liability arising from inaccuracies or omissions in information provided to Prensa by third parties. No indications were found during our investigations that information contained in this report, as provided to Prensa, is false.

Future Works

During future works at the site, care should be taken when entering or working in any previously inaccessible areas or areas mentioned above and it is imperative that works cease immediately pending further investigation and sampling (if necessary) if any unknown materials are encountered. Therefore, during any refurbishment or demolition works, further investigation, sampling and/or assessment may be required should any suspect or unknown material be observed in previously inaccessible areas or areas not fully inspected, i.e. carpeted floors.

Table of Contents

1 Introduction

Prensa Pty Ltd (Prensa) was engaged by Jacobs to conduct a Hazardous Building Materials Assessment (Assessment) of nominated areas of the Cox Peninsula, Northern Territory (the Site). Jonathan Williams of Prensa conducted the Assessment from the 3-5 March 2015 at the request of William Rodger of Jacobs.

The objective of the Assessment was to identify accessible hazardous building materials on the soil surface and within the structures located at the site. The assessment was conducted in accordance with Part 8.6 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.6 of the Commonwealth, Health and Safety Regulations, 2011.

2 Scope of Works

It is understood that remedial works at the site are proposed to include the demolition of all remaining buildings and infrastructure and are scheduled to commence in July 2015. This assessment was conducted in order to identify the nature and extent of Hazardous Building Materials prior to the commencement of demolition works. It should be noted the assessment was limited to the structures located at the site including the soil surface and did not represent an assessment of contamination within the profile of the soil.

The Site comprises two (2) specific areas located at the Cox Peninsula which include remote tip sites, communications buildings, building slabs and miscellaneous infrastructure.

The scope of the Assessment included the accessible interior and exterior of the structures and surface soil of the following areas:

- Section 34 and 41

Specifically, Prensa included the following hazardous building materials in the scope of this Assessment:

- Asbestos-containing materials (ACM);
- Synthetic mineral fibre (SMF) materials;
- Polychlorinated biphenyls (PCB) containing capacitors in electrical fittings;
- Lead-containing paint (LCP); and
- Ozone depleting substances (ODS).

The Assessment was conducted during normal business hours and the Site was unoccupied at the time of our inspection.

3 Site Description

Section 34

Section 34 comprises a fenced compound area containing a decommissioned Administration and Transmitter building formerly used for radio communication. Section 34 compound also comprises a number of building slabs from recently demolished buildings. The assessment also included the perimeter of land outside of the compound, tip sites 2, 3, 4, 6, 1/1A and the surface and perimeter of the temporary material staging area (TMSA).

Section 41

Section 41 is understood to currently be utilised by the Australian Maritime Safety Authority (AMSA). This area comprised numerous building slabs including a helipad. The main feature of Section 41 comprised a fenced area containing Charles Point lighthouse, however, this was not included in the scope of works.

4 Methodology

The Assessment comprised a review of relevant Site information made available to Prensa, interviews with available Site personnel and a visual inspection of accessible areas and destructive sampling techniques where necessary.

The methodology for assessing the hazardous building materials at the Site is presented in the following sections.

Asbestos-containing Materials – This component of the works was conducted to satisfy Part 8.6 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.6 of the Commonwealth, Health and Safety Regulations, 2011. When safe to do so, building materials that were suspected of containing asbestos were sampled at the discretion of the Prensa consultant. Samples of suspected ACM were analysed in Prensa's laboratory, which is NATA accredited to conduct asbestos bulk sample analysis. The analysis was conducted using polarised light microscopy including dispersion staining techniques.

Synthetic Mineral Fibres – This component of the Assessment was carried out in accordance with the guidelines documented in the *Code of Practice for the Safe Use of Synthetic Mineral Fibres* [NOHSC: 2006 (1990)]. This report broadly identifies SMF materials found or suspected of being present during the assessment and is based on a visual assessment.

Polychlorinated Biphenyls – Where safely accessible, specifications of capacitors incorporated in light fittings and ceiling fans were recorded and cross-referenced with the *ANZECC Identification of PCB-containing Capacitors information booklet* – 1997. Due to the danger of accessing electrical components, or for other reasons, such as height restrictions, some electrical fittings may not have been accessed. In these instances, comment is provided in the Assessment report on the likelihood of PCB-containing materials being present. This determination is based upon the age and appearance of the electrical fittings.

Lead-containing Paint – Representative painted surfaces were tested in locations for the presence of lead using the qualitative *LeadCheck* paint swab method. This method can detect lead in paint at concentrations of 0.5% and above, and may indicate lead in some paint films as low as 0.2%. It is noted that AS 4361.2 – 1998 *Guide to lead paint management – Part 2: Residential and commercial buildings* defines lead paint as paint with a lead content greater than 1% by dry weight. In some

circumstances, laboratory analysis may be recommended to quantitatively determine the content of lead in the paint.

The sampling program attempts to be representative of the various types of paints found at the Site. However, particular attention is paid to areas where LCPs were more likely to have been used (e.g. exterior gloss paints, window and door architraves and skirting boards). The objective of LCP identification in this Assessment is to highlight the presence of LCP within the Site building(s), not to specifically identify every location of LCP.

Ozone Depleting Substances – This component of the Assessment comprised a visual inspection of air conditioning units and any chillers (if applicable) at the Site and included a review of the air conditioners' refrigerant types.

Where asbestos was found to exist, a risk assessment was conducted on each item and a priority rating applied. This was conducted in accordance with the protocols described in **Appendix A: Risk Assessment Factors and Priority Ratings.**

5 Findings

5.1 Document Review and Interviews

As part of this Assessment, Prensa requested copies of previous documentation pertaining to Hazardous building materials at the Site.

Jacobs made available to Prensa a previous survey report carried out by Parsons Brinckerhoff (*Reference – Hazardous Materials Register and Report for Cox Peninsula Transmitter Station),* dated 25 August 2009).

The above survey report is understood to be the most recent survey report for this building. The reports identified the following key findings:

- Friable asbestos insulation in the form of ductwork lining and within switchboards; and
- Various examples of non-friable asbestos in the form of cement sheet, vinyl tiles, electrical backing boards and mastic.

Reference has been made to the findings of this report and to the NATA accredited bulk sample analysis.

5.2 Analytical results

5.2.1 Asbestos Bulk Sample Analysis

A total of thirty four (34) samples suspected to contain asbestos were collected and submitted to Prensa's NATA accredited laboratory for analysis. The asbestos bulk sample analysis report is provided in **Appendix B: NATA Endorsed Laboratory Sample Analysis Report** of this Assessment report. In summary, twenty one (21) samples were reported to contain asbestos.

5.3 Assessment Findings

The findings of this Assessment are presented in tabulated format in **Appendix C: Hazardous Building Materials Register** of this Assessment report. Hazardous building materials that have been photographed are depicted in **Appendix D: Photographs** of this Assessment report.

The following significant key findings are noted:

Asbestos-containing Materials

Table 1 below details the asbestos-containing materials (ACM) identified within each area of the Site as outlined in the Site Description.

Table 1: Details of ACM identified in each section of the Site

Section	Area	Findings
Section 34	**Administration Building**	• Friable asbestos millboard insulation was identified within redundant fuses on the floor of room 9 (Comms room switchboard); • Non-friable asbestos in the form of grey vinyl wall tile lining was identified within room 7 (female toilet); • Non-friable asbestos fibre cement sheet in the form of partition wall infill panels were identified in room 3 (corridor); • Non-friable asbestos fibre cement sheet infill panels was identified lining the wall of the ceiling space, adjacent to the exterior courtyard; and • Non-friable asbestos mastic was identified within the ductwork joins throughout the ceiling space. It should be noted that extensive asbestos removal works have previously been undertaken at the building.
	Transmitter Building	• Friable asbestos millboard insulation was identified within redundant fuses on the floor of room 20 (switchboard room); and • Non-friable asbestos moulded cement flue pipes were identified within the ceiling space of room 24 (battery room); It should be noted that extensive asbestos removal works have previously been undertaken at the building.
	Compound (Interior of Perimeter Fence)	• Friable asbestos insulation debris was identified on surface of the ground adjacent to the former switchboard hut; and • Non-friable asbestos in the form of fibre cement sheet debris was identified on the surface of the ground throughout the site. Sample collection was conducted at representative areas and the debris was observed to be extensive to the north, east and west areas of the area.
	Compound (Exterior of Perimeter Fence)	Non-friable asbestos in the form of fibre cement sheet debris was identified on the surface of the ground throughout the site. Sample collection was conducted at representative areas and the debris was observed to be extensive throughout the site.
	Tip Site 2	Non-friable asbestos in the form of fibre cement sheet debris was identified on the surface of the ground throughout the site. Sample collection was conducted at representative areas at the site and the debris was observed to be extensive throughout.
	Tip Site 3	Non-friable asbestos in the form of fibre cement sheet debris was identified on the surface of the ground throughout the site. Sample collection was conducted at representative areas at the site and the debris was observed to be extensive throughout.
	Tip Site 4	A visual inspection of the ground surface was conducted throughout the site and no asbestos debris was visually identified.
	Tip Site 6	A visual inspection of the ground surface was conducted throughout the site and no asbestos debris was visually identified.
	Tip Site 1/1A	Non-friable asbestos fibre cement sheet debris was identified on the surface of the ground throughout the north area of the site. Sample collection was conducted at representative areas at the north area of the site and the debris was observed to be extensive throughout this area. A visual inspection of the ground surface was conducted at the south area of the site and no asbestos debris was visually identified.

	Perimeter and Surface of TMSA	A visual observation of the ground surface was conducted throughout the site and no asbestos debris was visually identified.
Section 41	**Throughout**	Non-friable asbestos in the form of fibre cement sheet debris was identified on the surface of the ground throughout the site. Sample collection was conducted at representative areas at the site and the debris was observed to be extensive throughout.

5.3.1 Synthetic Mineral Fibre Materials

SMF insulation material was identified in various forms throughout Section 34 Administration and Transmitter building.

5.3.2 Lead-containing Paint

LCP was identified in paints to surfaces within the Section 34 Administration and Transmitter building.

5.3.3 Ozone Depleting Substances

R-22 refrigerant gas was identified within the air conditioning system of the Section 34 Transmitter building, however, Jacobs have advised Prensa that the refrigerant gas has been removed.

Refer to **Appendix C: Hazardous Building Materials Register** for the details of these findings.

5.4 Areas not Accessed

Significant areas not accessed during the assessment include;

- Section 34 Transmitter building roof at the request of the client;
- Section 34 Transmitter subfloor at the request of the client; and
- There was limited access to the surface of the soil throughout the site due to overgrown vegetation.

Areas that are generally not accessed as part of Prensa's assessments are listed in **Appendix E: Areas Not Accessed**. Site-specific areas that were inaccessible during Prensa's Assessment and were deemed likely to contain asbestos are also listed in this **Appendix C: Hazardous Building Materials Register**.

6 Discussions

The proposed site use is an important factor in determining the appropriate management of asbestos contaminants at the site. It is understood that proposed activities will comprise mainly of planting trees and the likely disturbance from these activities will include walking and driving on the surface and the disturbance of the top soil through planting of the roots into the ground. These proposed activities will likely cause minimal disturbance to the soil.

The findings of this report indicated that asbestos fibre cement debris was identified throughout the surface of the Site. Asbestos fibre cement is a non-friable product with the asbestos fibres secured tightly within its matrix and poses a relatively low risk if left undisturbed. It should be noted that even though the asbestos fibre cement debris was observed to be weathered and some examples may have the potential to be friable, considering the extent of the debris compared to the surface area and the current and proposed limited site use, the surface debris is unlikely to represent a significant risk.

Based on previous knowledge provided by Jacobs, including previous reports, site histories and Prensa's visual observations it is believed that additional investigations into the extent of asbestos are not required. It can be assumed that asbestos is present within the subsurface of the soil and the findings and observations are considered appropriate to adopt a remedial management approach at the site.

It is understood that previous asbestos removal has been undertaken to remove surface asbestos debris at tip site 1/1A; however, due to the excessive rainfall during the wet season the top soil has eroded exposing asbestos debris that was present beneath the surface. These additional asbestos finds have been highlighted in this report. It can be assumed that due to the continual erosion of top soil during the wet season it is considered likely that further asbestos debris will be exposed following any surface removal works and a management approach should be adopted where the site is re-inspected annually to monitor the presence and extent of any potential further asbestos debris.

The *National Environment Protection (Assessment of Site Contamination) Measure 1999* (April 2013) identifies that the top 10cm of soil should be free of asbestos debris as far as is reasonably practicable, however, Prensa believe that removing potential subsurface asbestos is not practicable due to the large coverage of the surface area and considering the proposed site activities. Furthermore, buried asbestos debris is unlikely to represent a significant risk as the soil acts a natural barrier encapsulating the asbestos preventing the potential of asbestos fibres to become airborne.

Prensa believe that while asbestos surface debris is unlikely to represent a significant risk for the proposed site use, the presence of asbestos debris on the surface is not appropriate considering the uncertainty and anxiety it may cause to the future occupants of the site. Furthermore, Part 8.6 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.6 of the Commonwealth, Health and Safety Regulations, 2011 indicates that asbestos should be removed as far as is reasonably practicable prior to any potential disturbance. Furthermore, the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (April 2013) indicates that waste materials should be removed from the surface of the soil for aesthetic purposes.

Prensa acknowledge that while there is some uncertainty regarding the presence and extent of subsurface asbestos, based on previous knowledge provided by Jacobs and Prensa's visual observations it is assumed that subsurface asbestos is present.

7 Conclusions

Based on the findings of Prensa's assessment a risk based management approach should be adopted for the asbestos at the site due to the uncertainties surrounding the extent and to minimize the potential risk of exposure asbestos. The following points highlight the main findings of the assessment:

- Surface asbestos debris should be removed by a Class A Licensed asbestos removalist;
- Subsurface asbestos at the site debris is unlikely to represent a significant risk as the soil acts a natural barrier encapsulating the asbestos preventing the potential of asbestos fibres to become airborne;
- The proposed activites at the site is likely to cause minimal disturbance to the top soil and unlikely to represent a significant risk from potential subsurface asbestos; and

- An Asbestos Management Plan (AMP) should be created and maintained for asbestos-containing materials that remain at the site to assist the site controller with the management of these materials.

8 Management Options

As per state legislation, all materials suspected of containing asbestos must be identified and recorded in a register. Furthermore, a risk assessment must be conducted of each hazardous building material and appropriate control measures implemented. The control measures have been determined based on reducing the risk of exposure, so far as is reasonably practicable. The control measures, which were determined by a competent person and/or hygienist, need to reflect the hierarchy of control outlined in specific state legislation and is as follows:

1. **Elimination**/removal (most preferred);
2. **Substitution**;
3. **Isolation**, such as erection of permanent enclosures encasing the material;
4. **Engineering** controls, such as negative air pressure enclosures for removal works, HEPA filtration systems;
5. **Administrative** controls – including the incorporation of registers and management plans, the use of signage, personnel training, safe work procedures, regular re-inspections and registers; and
6. The use of **Personal Protective Equipment** (PPE) (least preferred).

To manage the hazardous building materials, a combination of the above techniques may be required.

9 Site Specific Recommendations

Based on the findings of this Assessment, it is recommended that the following control measures be adopted as part of the management of the hazardous building materials at the Site. Recommendations for specific items of hazardous building materials are also presented in **Appendix C: Hazardous Building Materials Register** of this Assessment report.

9.1 Asbestos-containing Materials (ACM)

Surface asbestos debris

- Visible asbestos debris identified on the surface of the soil should be removed by a Class A licensed asbestos removal contractor under controlled asbestos removal working conditions. The removal works should be undertaken in accordance with Part 8.7 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.7 of the Commonwealth, Health and Safety Regulations, 2011. The removal methods should aim to achieve the objectives outlined in the *National Environment Protection (Assessment of Site Contamination) Measure 1999* (April 2013);
- The prohibitions on the re-use and storage of soils that are known to contain asbestos waste should be in accordance with Part 8.7 of the Northern Territory Work Health and Safety (WHS) (National Uniform Legislation) Regulations, 2014 and Part 8.7 of the Commonwealth, Health and Safety Regulations, 2011; and

- Due to the changing topography of the Site, an annual inspection of the areas where asbestos debris has been identified should be conducted by a hygienist to determine whether further debris has been uncovered from beneath the soil surface due to the change in seasons. This should preferably be conducted in the dry season (May – September) when the vegetation has subsided.

Administration and Transmitter building including general recommendations

- An Asbestos Management Plan (AMP) should be created and maintained for asbestos-containing materials that remain at the site to assist the site controller with the management of these materials. As an initial step to the development of the AMP, a register of asbestos-containing building materials present at the Site must be developed and maintained. The AMP must ensure that suitable control measures are implemented to prevent Site personnel and others from being exposed to airborne asbestos fibre;
- Asbestos-containing building materials should be removed prior to demolition works. The asbestos removal works should be conducted by an appropriately licensed asbestos removal contractor under controlled asbestos removal working conditions;
- Asbestos-containing building materials that are likely to be disturbed should be removed prior to demolition works. The asbestos removal works should be conducted by an appropriately licensed asbestos removal contractor under controlled asbestos removal working conditions;
- Prensa recommends that airborne asbestos monitoring should be conducted during the asbestos removal process along the boundary of the work area;
- An asbestos hygienist who is independent of the asbestos removalist should be engaged by Jacobs to conduct a clearance inspection at the completion of the asbestos removal works;
- The asbestos hygienist should provide a Clearance Certificate to Jacobs that documents his/her clearance inspection and the satisfactory completion of the asbestos removal works. The Clearance Certificate should state that all visible asbestos residue resulting from the asbestos removal process has been removed from the asbestos removal area(s) and from areas adjacent to the asbestos removal area(s);
- During demolition works, if any materials that are not referenced in this report and are suspected of containing asbestos are encountered, then works must cease and an asbestos hygienist should be notified to determine whether the material contains asbestos; and
- Identify asbestos-containing materials that are to remain *in situ* to warn of the dangers of disturbing these materials.

9.2 Synthetic Mineral Fibre Materials

SMF materials that are likely to be disturbed during any proposed demolition/refurbishment works should be handled in accordance with the National *Code of Practice for the Safe Use of Synthetic Mineral Fibres* [NOHSC:2006(1990)].

9.3 Lead-containing Paint

Any works that are likely to disturb LCP surfaces should be conducted in accordance with the requirements of AS 4361.2 1998 *Guide to lead paint management, Part 2: Residential and commercial buildings*.

Appendix A: Risk Assessment Factors and Priority Ratings

Risk Assessment Factors

To assess the health risk posed by the presence of hazardous building materials, all relevant factors must be considered. These factors include:

- Product type;
- Condition;
- Disturbance potential;
- Friability of the material;
- Proximity to direct air stream; and
- Surface treatment (if any).

The purpose of the material risk assessment is to establish the relative risk posed by specific hazardous building materials identified in this assessment. The following risk factors are defined to assist in determining the relative health risk posed by each item.

Condition

The condition of the hazardous building materials identified during the assessment is reported as being **good**, **fair** or **poor**.

- **Good** refers to a material that is in sound condition with no or very minor damage or deterioration.
- **Fair** refers to a material that is generally in a sound condition, with some areas of damage or deterioration.
- **Poor** refers to a material that is extensively damaged or deteriorated.

Friability

The friability of a material describes the ease by which the material can be crumbled, which in turn, can increase the release of fibres into the air. Therefore, friability is only applicable to asbestos and SMF.

- **Friable asbestos** can be crumbled, pulverised, or reduced to powder by hand pressure, which makes it more dangerous than non-friable asbestos.
- **Non-friable asbestos**, more commonly known as bonded asbestos, is typically comprised of asbestos fibres tightly bound in a non-asbestos matrix. If accidentally damaged or broken these ACM may release fibres initially but will not continue to do so.
- **Bonded** SMF describes a synthetic fibrous material which has a specific designed shape and exists within a stable manufactured product. **Un-bonded** SMF is a loosely packed synthetic fibrous material which has no adhesive or cementitious binding properties.

Disturbance Potential

Hazardous building materials can be classified as having low, medium or high disturbance potential.

- **Low disturbance potential** describes materials that have very little or no activity in the immediate area with the potential to disturb the material. Low accessibility is considered as monthly occupancy or less, or inaccessible due to its height or its enclosure.
- **Medium disturbance potential** describes materials that have moderate activity in the immediate area with the potential to disturb the material. Medium accessibility is considered weekly access or occupancy.
- **High disturbance potential** describes materials that have regular activity in the immediate area with the potential to disturb the material.

Appendix A: Risk Assessment Factors and Priority Ratings

Health Risk Status

The risk factors described above are used to grade the potential health risk ranking posed by the presence of the materials. These risk rankings are described below:

- A **low health risk** describes a material that poses a negligible or low health risk to occupants of the area due to the materials not readily releasing fibres (or other toxic/hazardous constituents) unless seriously disturbed.
- A **medium health risk** describes a material that pose a moderate health risk due to the material status and activity in the area.
- A **high health risk** describes a material that pose a high health risk to personnel or the public in the area of the material.

ACM Priority Rating System for Control Recommendations

While an assessment of health risk has been made, our recommendations have been prioritised based on the practicability of a required remedial action. In determining a suitable priority ranking, consideration has been given to the following:

- Level of health risk posed by the asbestos containing material;
- Potential commercial implications of the finding; and
- Ease of remediation.

As a guide the recommendation priorities have been given a timeframe as follows:

Priority 1 (P1):	**ACM with High Risk Potential** - Requiring immediate action

Status: 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 of the property if unrestricted use of the area containing the material is allowed.

Recommendation: If the asbestos-containing material is in a poor/unstable condition and accessible with risk to health from exposure, immediate access restrictions to the immediate area should be applied, air monitoring should be considered and removal is recommended as soon as practicable using an appropriately licensed asbestos removalist.

Priority 2 (P2):	**ACM with Medium Risk Potential –** May require action in the short term

Status: 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 risk, is unstable.
- The material is accessible and can, when disturbed, present a short-term exposure risk.
- The material could pose an exposure risk if workers are in close proximity.

Recommendation: If the asbestos-containing material is easily accessible but in a stable condition, removal is preferred. However, if removal is not immediately practicable, short-term control measures (i.e. restrict access, sealing, enclosure etc.) may be employed until removal can be facilitated as soon as is practical. Negligible health risk if material remains undisturbed under the control of an asbestos materials management plan.

Priority 3 (P3):	**ACM with Low Risk Potential** – May require action in the medium term

Status: Asbestos-containing materials with a low potential for disturbance due to the following conditions:

- The condition of any friable asbestos-containing material is stable and has a low potential for disturbance i.e. is encased in metal cladding.
- The asbestos-containing material is in a non-friable condition, however further disturbance or damage is unlikely other than during maintenance or service and does not present an exposure risk unless cut, drilled, sanded or otherwise abraded.

Recommendation: Minor health risks if the material is left undisturbed under the control of an asbestos-containing materials management plan. Consider removal or encapsulation within 12 months of the damaged bonded asbestos-containing materials being identified.

Priority 4 (P4):	**ACM with Negligible (very low) Risk Potential** - Requiring ongoing management or longer term remedial action

Status: The asbestos-containing material is in a non-friable form and in good condition. It is unlikely that the material can be disturbed under normal circumstances. Even if it were subjected to minor disturbance the asbestos-containing material poses a minor health risk.

Recommendation: These asbestos-containing materials should be left in a good and stable condition, with ongoing maintenance and periodic inspection. It is advisable that any remaining identified or assumed asbestos-containing materials should be appropriately labelled, where possible, and regularly inspected to ensure they are not deteriorating resulting in a potential risk to health.

Appendix B: NATA Endorsed Laboratory Sample Analysis Report

Appendix C: Hazardous Building Materials Register

Key to asbestos-containing materials priority risk rating:	
Priority 1 (P1):	High Priority - Requiring immediate action
Priority 2 (P2):	Medium Priority – May require action in the short term
Priority 3 (P3):	Low Priority – May require action in the medium term
Priority 4 (P4):	Very Low Priority - Requires ongoing management or longer term remedial action

Appendix D: Photographs

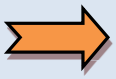
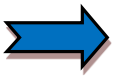
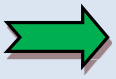
KEY	
	Confirmed or assumed ACM
	Confirmed or suspected other hazardous material type (SMF; PCB & lead paint)
	Confirmed or suspected non-ACM or other non-hazardous material

Photo 1. A map highlighting Section 34 and 41.

Photo 2. Section 34 – Administration Building, ground floor, room 3 (corridor), infill panels – **asbestos** fibre cement sheet. Sample: 17069-001-010.

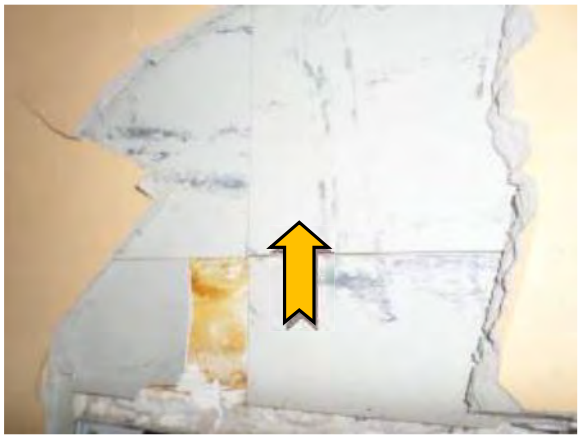


Photo 3. Section 34 – Administration Building, ground floor, room 7 (female toilet), wall lining – grey **asbestos** vinyl wall tiles. Sample: 17069-001-008.

Photo 4. Section 34 – Administration Building, ground floor, room 9 (comms room switchboard), redundant fuse – **asbestos** millboard insulation. Sample: 17069-001-009 (removed as sampled).

Photo 5. Section 34 – Administration Building, ground floor, room 11 (former site office), walls and ceiling space – suspected SMF insulation material.

Photo 6. Section 34 – Administration Building, ground floor, room 19 (residents hall, kitchen), ceiling – suspected SMF ceiling tiles.