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BAPS AUSTRALIA

Hazardous Materials Survey Report

230 Aldington Road, Kemps Creek NSW

Report E23529.E10_Rev0

19 September 2017

REPORT DISTRIBUTION

Hazardous Materials Survey Report
230 Aldington Road, Kemps Creek NSW

EI Report No.: E23529.E10_Rev0
Date: 19 September 2017

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Revision	Details	Date	Amended By
0	Original	19 September 2017	-

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EXECUTIVE SUMMARY

Background and Objectives

BAPS Australia engaged EI Australia (EI) to conduct a Hazardous Materials Survey Report for the property located at 230 Aldington Road, Kemps Creek NSW (herein referred to as 'the site').

The purpose of this Hazardous Materials Survey Report is to present the findings of a qualitative risk assessment of the hazardous building materials located on the site. The site inspection was undertaken on 5 September 2017.

This report has been developed to assist BAPS Australia with the preparation for the redevelopment of the site. EI understand that the proposed redevelopment involves the demolition of the existing structures and construction of a Hindu temple, accommodation place, halls and classrooms.

Key Findings

The overall status of each hazardous material type (based on field observation and sampling) is tabulated below.

Site Name	ACM (friable)	ACM (Non-friable)	SMF	LBP	PCBs
230 Aldington Road, Kemps Creek NSW	No	Possible	No	No	Possible

Notes:
ACM - Asbestos containing materials,
SMF – Synthetic mineral fibre,
LBP – Lead based paints,
PCBs - Polychlorinated biphenyls

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1. INTRODUCTION

1.1 BACKGROUND AND PURPOSE

EI Australia (EI) was engaged by BAPS Australia to conduct a Hazardous Materials Survey Report (HMS) for the site located at 230 Aldington Road, Kemps Creek NSW.

EI understand that the proposed development involves the demolition of the existing structures and construction of a Hindu temple, accommodation place, halls, and classrooms. As such, a HMS report is required to accompany a Development Application (DA) submission to Council prior to redevelopment works.

This report documents the findings of the HMS performed by EI, which involved inspection of the building on site for the presence of hazardous materials, sampling of potential hazardous materials, and subsequent laboratory analysis for the relevant hazardous substances. In addition, this report provides recommendations for the safe management of hazardous materials during refurbishment works.

1.2 OBJECTIVES AND SCOPE OF WORKS

The objectives of the investigation were to:

- Ascertain whether buildings on site contain asbestos-containing materials (ACMs), lead in painted areas, or other hazardous material(s); and
- Provide recommendations for management of hazardous materials, during demolition works.

The scope of work for the investigation included:

- An inspection of on-site structures;
- Physical examination of suspected hazardous materials (including potential ACM, painted surfaces, etc.);
- Sampling and laboratory analysis of selected samples; and
- Data interpretation and reporting.

2. SITE DESCRIPTION

2.1 PROPERTY IDENTIFICATION AND LOCATION

The site identification details and associated information are presented in **Table 2-1.**

Table 2-1 Site Identification and Location

Attribute	Description
Street Address	230 Aldington Road, Kemps Creek NSW
Location Description	The site is located approximately 37 km west of the Sydney CBD. The site is bound by residential properties on large sized lots of agricultural land to the north and south, Aldington Road then residential properties on large sized lots of agricultural land to the west, and vacant land to the east
Site Area	Approximately 10.1 ha

2.2 BUILDING DESCRIPTIONS

A brief description of each building/structure inspected is located in **Table 2-2**.

Table 2-2 Building Descriptions

Description	
The main building located at 230 Aldington Road, Kemps Creek consists of a single storey residential building. The building contains 3 bedrooms, kitchen, living areas, bathrooms, and a bar with outdoor entertaining area. A detached double garage with store room and carport/shed are to the east of the residential building. The residential building has a tiled roof, brick external walls, brick and plaster internal walls, plaster ceilings with concrete floors.	
The office/flat building located at 230 Aldington Road, Kemps Creek consists of a single storey residential building. The building has an office or flat layout with a kitchen/living area and bedroom/office. The residential building has a metal roof, brick external walls, brick and plaster internal walls, plaster ceilings with concrete floors.	

Description	
The large shed consists of a single storey shed located south of the residential building. The building has a number of storage and packing areas. The shed has a number of demountable buildings and a newly constructed amenities building to the west. The shed has a metal roof, external walls and internal walls with concrete floors.	
The small shed consists of a single storey shed located in the western paddock. The building has a single storage area. The shed has a metal roof and external walls with earth floors.	
The pump shed consists of a single storey shed located in the western paddock adjacent the western dam. The building contains the water pump for the dam. The shed has a metal roof and external walls with earth floors.	

3. GENERAL METHODOLOGY

The survey was conducted to identify the presence and condition of hazardous building materials within the site. For the purpose of this assessment, hazardous building materials include:

- Asbestos containing materials.
- Synthetic Mineral Fibre (SMF) materials.
- Lead based paint systems applied to the building.
- Fluorescent light capacitor fittings containing polychlorinated biphenyls (PCB).

The scope of the survey was limited to a visual inspection of the accessible and representative construction materials, finishing materials and building services, and the collection of materials suspected of containing the hazardous materials listed above. Representative samples of suspected hazardous materials were collected where it was possible to do so. Limited destructive sampling or damage to the existing finishes or services was performed to obtain samples or gain access to otherwise inaccessible areas. Equipment not associated with the building fabric and operational services was not included in the survey.

Due to the destructive nature of the sampling process or access constraints, it is not possible to collect samples of all target materials. Where it is not possible to collect a sample of material, the inspector has used their professional experience to make a judgement on the status of the material or the areas concerned. Where the inspector believes or suspects the material may contain asbestos, SMF, lead paint or PCB this has been recorded in the survey report and these materials should be treated as a hazardous material.

3.1 ASBESTOS

This component of the assessment was carried out in accordance with the guidelines documented in the How to Manage and Control Asbestos in the Workplace (2016) and How to Safely Remove Asbestos (2016). Below are definitions of these two forms.

Non Friable asbestos material

Non-friable (bonded) asbestos material is any material that contains asbestos in a bonded matrix. It may consist of Portland cement or various resin/binders and cannot be crushed by hand when dry.

Friable asbestos material

Friable asbestos material is any material that contains asbestos and is in the form of a powder or can be crumbled, pulverized or reduced to powder by hand pressure when dry.

Samples of materials were analysed by laboratory testing for asbestos content in accordance with Australian Standard “AS4964-2004 Method for the qualitative identification of asbestos in bulk samples”; the reporting limit of the method is 0.1 g/kg.

3.2 LEAD IN PAINT

Representative painted surfaces were sampled, where paint systems were suspected of containing lead, and laboratory analysed for the presence of Lead (Pb). The sampling program was representative of the various types of paints found within the site, focussing on areas where lead based paints may have been used (e.g. Exterior gloss paints, window and door architraves, skirting boards, etc.).

Australian Standard, AS 4361.2-1998 "Guide to Lead Paint Management, Part 2: Residential and Commercial Buildings" defines lead paint as *"…a paint film or component coat of a paint system in which the lead content (calculated as lead metal) is in excess of 1.0% by weight of the dry film as determined by laboratory testing*".

The "Standard for the Uniform Scheduling of Drugs & Poisons" defines a Third Schedule Paint as containing greater than 0.1% lead by dry weight (as from 1 December 1997).

3.3 SYNTHETIC MINERAL FIBRES (SMF)

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 survey based on a visual assessment.

3.4 POLYCHLORINATED BIPHENYLS (PCBS)

Where safe access was gained, detailed information of capacitors in light fittings and other electrical equipment were noted for cross-referencing with the Australian and New Zealand Environmental and Conservation Council (ANZECC) Identification of PCB containing capacitors information booklet (1997). Due to the inherent hazard in accessing electrical components, or other reasons such as height restrictions, immovable equipment and furniture, some light fittings may not be safely accessed. In these instances, comment is made on the likelihood of PCB containing materials based upon age and appearance.

4. AREAS NOT ACCESSIBLE / NOT INSPECTED

The details of areas that were not able to be accessed during the site inspection are located in **Table 4-1**.

Table 4-1 Inaccessible Site Areas

230 Aldington Road, Kemps Creek NSW		
Location	**Material**	**Comment**
Residential building, roof cavity	Possible hazardous materials	No access into this area. Inspect area prior to demolition to confirm the findings.

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

- Detailed inspection within wall cavities and set ceilings;
- Within those areas accessible only by dismantling equipment;
- Concealed within the building structure;
- Within voids or internal areas of plant, equipment, air-conditioning ducts, etc.;
- Energised services, gas, electrical, and pressurised vessels;
- Areas deemed unsafe or hazardous at time of inspection;
- Within totally inaccessible areas such as voids and cavities created and intimately concealed within the building structure. These voids are only accessible during major demolition works; and
- Height restricted areas, including building roof areas.

Should demolition operations entail disturbance of materials in these locations, further investigation and sampling of specific areas should be conducted as part of an asbestos and lead management and abatement program as per AS 2601-2001 The Demolition of Structures prior to any works proceeding. Note that the presence of any residual asbestos insulation and applications on steel members, concrete surfaces, pipe work, equipment and adjacent areas from prior abatement or refurbishment works cannot be ascertained without extensive removal and damage to existing insulation, fittings and finishes.

5. LABORATORY RESULTS

Laboratory results for the tested material samples are summarised in **Table 5-1**. Copies of the Laboratory Analytical Reports are attached in **Appendix C**.

5.1 ASBESTOS AND SYNTHETIC MINERAL FIBRES

A summary of laboratory results for asbestos containing materials is presented in **Table 5-1**.

Table 5-1 Summary of Analytical Laboratory Results – Asbestos

Building	Location	Sample Number	Sample Description	Fibre Identification
Large shed	External, western retaining wall, concrete filled pipes	ASB01	Fibre cement pipes	No asbestos detected Organic fibres detected
Office/Flat	External, eaves	ASB02	Fibre cement sheeting	No asbestos detected Organic fibres detected
Residential building	Southern elevation, debris to grounds	ASB03	Fibre cement sheeting	No asbestos detected Organic fibres detected

6. RISK ASSESSMENT

The property located at 230 Aldington Road, Kemps Creek NSW was the subject of a Hazardous Materials Survey Report. The Hazardous Materials Register, presented in **Appendix A**, assesses the risks associated with each identified hazardous material on site. In order to assess the health risks associated with Asbestos, Lead-based Paint, SMF and PCB's the following must be considered:

6.1 ASBESTOS

- Condition of the material (poor, average, good);
- Friability of the material (ability to crumble);
- Likelihood of disturbance;
- Exposed surface area; and
- Accessibility requirements for building and/or maintenance.

6.2 LEAD-BASED PAINT

- Concentration of lead in paint;
- Condition of the paint (poor, average, good);
- Ease of disturbance and removal;
- Exposed surface area; and
- Accessibility requirements for building and/or maintenance.

6.3 PCB'S

- Manufacture age and location of capacitor;
- Condition of capacitor (presence of leaks);
- PCB exposure resulting from contact with capacitor; and
- Accessibility requirements for building and/or maintenance.

6.4 PRIORITY RATINGS

The risk elements above are used to rank the overall health risk posed by the presence of the hazardous materials:

Priority 1: Immediate Elevated Risk Level

Materials which, due to their present condition and location, present an immediate health risk. The material and area surrounding should be isolated from personnel with remedial actions recommended to be undertaken at the earliest practicable time.

Priority 2: Potential Elevated Risk Level

Damaged or unstable materials which present an elevated health risk if disturbed to personnel within the vicinity, and have the potential for contamination to be spread to other areas. The material should be stabilised to immediately, with remedial actions considered for the material.

Priority 3: Negligible Risk under Present Conditions

Stable material that presents a negligible health risk unless damaged. These materials should be maintained in good condition. They should be reassessed prior to any works that will impact the material.

7. CONCLUSION

Based on the inspection of the structural materials it is concluded that the hazardous materials have been identified within the site, as indicated in **Table 7-1**. Handling recommendations and material specific work plans for the relevant hazardous materials are outlined in **Section 8**. Photographs of the identified materials are presented in **Appendix B**.

Table 7-1 Summary Hazardous Materials

Property	Location	Material Description
Pump shed,	External, Lister water pump, engine exhaust manifold flange and engine head flanges	Possible asbestos gaskets
Large shed	Internal, eastern store rooms	2 tube fluorescent light fittings

8. RECOMMENDATIONS & PROPOSED WORK PLAN

8.1 ASBESTOS

Asbestos materials should be removed prior to the commencement of any renovation or demolition works that may cause their disturbance. The removal of these materials is to be done in accordance with the requirements of the SafeWork NSW approved code of practice "How to Safely Remove Asbestos" and requires a minimum Class B licenced asbestos removal contractor.

The following recommendations and guidelines should be observed but not limited to during the removal of non-friable asbestos containing materials (ACM) prior to demolition works.

- The work area should be barricaded and appropriate signage installed.
- The ACM should be sealed or wetted with water.
- ACM should be removed with minimal breakage and where applicable, should be lowered to the ground not dropped.
- Where ACM's are too large to fit into an asbestos labelled waste bag, ACM should be stacked or placed on a 200 µm plastic ground sheet or lined skip bin and not allowed to lie about the site where they may be further broken or crushed by machinery or workers.
- Asbestos waste is to be securely packaged and labelled. Asbestos waste bags are to be double bagged while ACM in polythene sheeting should be double wrapped with adhesive tape applied to the entire length of every overlap to secure materials to minimise the risk of the polythene sheeting tearing or splitting.
- Any dust and / or AC debris remaining around the removal area should be cleaned up using an approved "H" type HEPA vacuum cleaner.
- All asbestos containing waste is to be disposed at an approved disposal facility (contact local council or SafeWork NSW for nearest asbestos waste facility).

The removal ACM is to be done in accordance with the requirements of the NSW Work Health and Safety Act & Regulation 2011 and Safe Work Australia approved code of practice "How to Safely Remove Asbestos". This Code of Practice is an approved code of practice under section 274 of the Work, Health and Safety Act, 2011.

Where asbestos is to be removed the licenced asbestos removal contractor should prepare an asbestos removal control plan prior to undertaking any removal works.

8.1.1 Asbestos Fibre Air Monitoring

The material on site is classified as non-friable. There is no requirement to undertake asbestos fibre air monitoring on the boundary of the work areas, however as a matter of due diligence, asbestos fibre air monitoring is recommended to be undertaken by a company independent of the demolition and /or asbestos removal company. The asbestos fibre air monitoring should be undertaken by a company that is NATA (National Association of Testing Authorities) accredited.

8.1.2 Asbestos Clearance Inspection

Under Clause 473 of the NSW Work Health and Safety Regulation 2011, a clearance inspection is required following the removal of ACM. A clearance inspection is to be carried out and a clearance certificate issued before the area can be re-occupied. The company undertaking the clearance inspection should be independent of the demolition and / or asbestos removal company.

8.2 SYNTHETIC MINERAL FIBRES

SMF materials, where present, should be removed during the commencement of any renovation or demolition works that may cause their disturbance. The handling or removal of any SMF containing materials should be conducted in accordance with the NSW *Work Health and Safety Regulation 2011* and the Synthetic Mineral Fibres National Standard (NOHSC:1004) and National Code of Practice (NOHSC:2006).

The following guidance documents, as detailed in NOHSC, should be consulted for guidance regarding removal and disposal of SMF:

- National Standard for the Safe Use of Synthetic Mineral Fibres [NOHSC:1004 (1990)];
- National Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006 (1990)]; and
- Code of Practice for the Safe Use of Synthetic Mineral Fibres (NOHSC, 1993).

These documents should be referred to for the disposal SMF materials. Under EPA (2014), "synthetic fibre waste from materials such as fibreglass, polyesters and other plastics, being waste that is packaged securely to prevent dust emissions, but excluding asbestos waste which is a special waste", is pre-classified as General Solid Waste (Non Putrescible).

8.3 POLYCHLORINATED BIPHENYL CAPACITORS

Should any metal cased capacitors be identified in light fittings on the site, they should be assessed for PCB content. Any leaking PCB containing capacitors identified should be removed and disposed of prior to the commencement of any renovation or demolition works that may cause their disturbance.

If metal capacitors identified to containing PCB are identified, the following recommendations and guidelines should be observed but not limited to when removing / handling PCB containing capacitors.

Handling procedure

Small quantities of PCBs are usually found in sealed containers known as capacitors. PCB-containing capacitors are unlikely to pose a health risk unless they become damaged and leak. Care must be taken when handling a damaged capacitor to ensure that spillage does not occur. The person handling the damaged capacitor should take the following precautions:

Please note: As capacitors can be damaged upon removal the following procedures shall also be followed for capacitors that are in good condition.

a. Use disposable gloves - wear gloves that are made of materials that are resistant to PCBs, such as Viton, polyethylene, polyvinyl alcohol (PVA), polytetrafluoroethylene (PTFE), butyl rubber, nitrile rubber or neoprene. Mid-arm length gauntlets may be required. Do not use gloves made of polyvinyl chloride (PVC) or natural rubber (latex).

b. Wear disposable overalls made of Tyvek or made of materials with similar chemical resistant properties.

c. When working with overhead equipment (e.g. fluorescent light fixtures), wear a full face shield and appropriate hair protection.

d. Wash any non-disposable contaminated equipment with kerosene and collect the kerosene for disposal as a PCB contaminated waste.

e. PCB containing equipment (capacitors, ballasts, etc.) is to be placed in a polyethylene bag, which then is to be placed in a sealable metal container. This container must be clearly marked with the details of the contents and must be maintained in good order (that is, no visible signs of damage or corrosion). If some of these materials are leaking, the container should be partially filled with an absorbent material, such as a commercial absorbent, kitty litter or a diatomaceous earth. The plastic wrapped leaking components can then be placed in the container.

f. If PCB vapours are suspected (e.g. PCB leaks onto a hot surface in a confined space), wear a suitable respirator. Use a cartridge respirator suitable for chlorinated vapours. It is always prudent to ensure adequate ventilation. NOTE: PCBs do not vaporise readily at room temperature.

g. Do not smoke while handling PCB capacitors.

h. After handling PCBs, even if gloves were worn, wash hands well in warm, soapy water before eating, drinking, smoking, handling food or drink, or using toilet facilities.

PCB capacitors are to be disposed of at a licenced waste facility. If PCB concentration is above the threshold concentration for PCBs scheduled waste (i.e. greater than 50 mg/km), the waste must be also be transported by a suitably licenced contractor. For further details on this, contact the NSW EPA.

8.4 SITE SPECIFIC PROCEDURES

The following measures are regarded as being relevant to the future demolition work and clean-up program (Ref. Standards Australia (2001)). Should any hazardous materials be identified during the demolition process; removal of these materials should be completed prior to removal of the floor slab and external areas of concrete hard-standing in order to reduce the potential for impacts to underlying fill / soil. The following measures constitute a work plan for the management of hazardous building materials.

- The building is to be maintained in a stable and safe condition during any demolition work. Appropriate precautions must be taken to maintain building stability/safety in the event of severe weather conditions (e.g. localized high winds and storms).

- Where appropriate, building power and/or water supplies should be disconnected prior to commencement of, and then throughout, any demolition.

- During the demolition phase, site boundaries are to be prominently labelled. All signage is to conform to Australian Standard AS 1319 Safety Signs in the Occupational Environment. It is recommended that notices displaying the words WARNING DEMOLITION IN PROGRESS, or similar, be fixed at appropriate places on the outer walls, or suitable perimeter, to warn the public.

- Appropriate overhead protection should be implemented during the course of any program.

- The site shall be secured at all times against the unauthorized entry of persons or vehicles. Provision shall be made for ready access to the site by emergency services, in the event of fire or accident.

- Personal protective equipment shall be made available for the works, including disposable high-visibility coveralls, minimum P2 respirators, goggles, gloves, steel-capped boots and ear muffs.

- All work procedures involving hazardous materials must minimise the release of dusts and/or fibres. The two main techniques for the control of dusts are hosing down (wetting) and vacuuming (Standards Australia (2001).

- Use wet methods to dampen down material (e.g. mist sprays and wet wipes), or use suitable vacuum attachments fitted with HEPA filters, to collect and/or reduce the release of dust. Caution: do not use household vacuum cleaners which are not fitted with HEPA filters.

- Work shall be performed in well-ventilated areas where possible. Confined spaces may contain asbestos and/or lead dusts. In accordance with Australian Standard AS 2601 The Demolition of Structures (Standards Australia, 2001), "requirements and procedures should be in place to prevent occupational illness, injuries and fatalities to persons entering and working in confined space".

- Non-powered hand tools are to be used where possible, as these generate much less dust and noise.

- Undue noise, especially during extended working hours, is to be avoided.

- Use drop sheets to collect debris. Precautions should be taken to prevent slip and trip hazards. Upon completion, drop cloths will be rolled inward and placed in disposal bags with other wastes (EPA / Planning NSW, 2003).

- All asbestos and lead materials should be handled in accordance with the relevant NOHSC, WorkCover Authority and EPA guidelines. It will be of major importance to ensure that the works do not cause the release of dusts. The SafeWork NSW approved code of practice "How to Safely Remove Asbestos" (2016) provides detailed relevant information, while further information can be obtained from WorkCover (1996) Code of Practice for the Control of Workplace Hazardous Substances and the EIACC (2002) Guidelines to Working on Electrical Meter Panels Identified as Containing Asbestos.

- Waste materials are to be placed in disposal bags or a suitable, sealed container (e.g. a covered skip or bins). All asbestos materials should be wetted and double wrapped in 200 µm thickness, builder's plastic, or placed in clear, plastic (200 µm thickness) "Asbestos Waste" bags.

- All waste building materials must be disposed to EPA-licensed, landfill / waste recycling facilities under the EPA (2014) *Waste Classification Guidelines*.

- Upon completion of the demolition phase, an inspection of each work area should be performed, to check the presence of fibrous cement sheeting (FCS) fragments. If such fragments are found, a hand-pick exercise should be undertaken to remediate the area.

- Facilities and equipment for administering first aid must be provided.

- In addition to the health of site personnel and members of the public, the work is ensuring protection of the immediate environment. In accordance with Australian Standard AS 2601 The Demolition of Structures (Standards Australia, 2001), this is defined as "the properties, including public thoroughfares and spaces, having common boundaries with the demolition site, and where the property is a public thoroughfare, including the properties directly opposite the demolition site". One measure that can assist the protection of both human health and the immediate environment is ambient air monitoring of dust emissions.

- All works are to be executed by competent persons/contractors, with due regard at all times for safe working practices and in accordance with the work plan, a copy of which shall be kept on site. It will be of particular importance that the handling and disposal of hazardous materials is performed by appropriately qualified personnel.

- Any modifications to this work plan, which may be necessary as the work progresses, shall be made by a competent person, in accordance with Clause 2.1 of Australian Standard AS 2601 The Demolition of Structures (Standards Australia, 2001). Appendix C of Australian Standard AS

2601 The Demolition of Structures sets out recommendations regarding the competence of site personnel (Standards Australia, 2001).

- This plan should be cross-referenced with the site-specific work plan(s) prepared by the appointed contractor(s), prior to work commencement.

9. STATEMENT OF LIMITATIONS

This survey evaluated the presence of hazardous materials in/on the buildings of the identified site. The findings presented in this report are the result of a site walkover inspection, sampling and laboratory analysis. To the best of our knowledge and in view of these limitations, the findings presented in this report represent a reasonable interpretation of the building materials on the site, at the time of investigation.

This report has been prepared by EI Australia (EI) for the sole use of BAPS Australia. No responsibility is accepted for the use of any part of this report in any other context or for any other purpose or by other third parties. This report does not purport to provide legal advice.

This report relies upon data, surveys, measurements and/or results taken at, or under, the particular times and conditions specified in this report. Any conclusions or recommendations only apply to the findings at that particular time.

In the interests of future OHS and in the absence of a comprehensive testing program, EI recommends that where there is doubt over the composition of some FCS, it should be assumed to contain asbestos until verified otherwise by appropriate analysis.

No warranties are made as to the information provided in this report. All conclusions and recommendations made in this report are of the professional opinions of EI personnel involved with the project and while normal checking of the accuracy of data has been conducted, any circumstances outside the scope of this report or which are not made known to EI personnel and which may impact on those opinions are not the responsibility of EI.

APPENDIX A
Hazardous Materials Register

Table A1 Key and Explanatory Notes to Hazardous Building Material Register

Column Heading	Description
Location	A detailed description of the location of the hazardous building material relevant to this entry.
Material Type	The specific hazardous building material type, e.g. **Asbestos:** asbestos cement sheet, corrugated asbestos cement sheet, vinyl asbestos tiles, etc. **SMF:** foil backed SMF, compressed SMF ceiling tiles, SMF insulation to upper surface of ceiling, etc. **Paint:** Beige coloured lead-based paint system. **PCB:** Metal case capacitor 'Plessey 6.5 µF Type APF 265CR'.
Sample / Photograph Reference	**Sample Reference** number allocated to the sample collected from this asbestos containing material **Photograph Reference** number, refer **Appendix B**.
Quantity	The quantity of hazardous building material relevant to this location. Depending on the nature of the material, the quantity is given as an area (m^2), length (m), number of pieces/units, not determined (ND)
Condition	**Good:** good and stable condition. **Fair:** early signs of deterioration or localised areas of damage. For PCB capacitors this would include evidence of seals deteriorating. **Poor:** the material is in poor condition and remedial action is required, e.g. deteriorated friable asbestos materials, capacitors are leaking, etc.
Accessibility	**Regular:** in the occupied space of the building and accessible to all personnel using/entering the building. **Occasional:** buildings or rooms that are used infrequently. **Maintenance Only:** accessible to maintenance personnel only.
Risk Priority Rating	The allocated priority rating for this entry, refer **Section 6.4**.
Recommendations	Recommended actions for demolition works or damaged material.
Timing	Timing for implementing recommendations and remedial actions specified for this entry. Where a Priority Rating 3 is allocated for an asbestos containing material, this refers to the timing for re-inspection of this material.

Hazardous Materials Register:

230 Aldington Road, Kemps Creek NSW

Location	Material Type	Sample / Photograph Reference	Quantity	Condition	Accessibility	Risk Priority Rating	Recommendations	Timing
Asbestos								
Pump shed, external, Lister water pump, engine exhaust manifold flange and engine head flanges	Gaskets (may contain asbestos)	Not sampled (mechanical hazard) Photograph 1	ND	Good	Maintenance only	Priority 3 - Negligible Risk under Present Conditions	Remove prior to demolition works. Confirm asbestos status prior to demolition.	September 2022
Residential building, external, southern elevation, debris to grounds	Fibre cement sheeting	ASB03	NA	NA	NA	No asbestos materials detected	NA	NA
Residential building, external, eaves	Fibre cement sheeting	Similar to ASB03	NA	NA	NA	No asbestos materials detected	NA	NA
Office/Flat, external, eaves	Fibre cement sheeting	ASB02	NA	NA	NA	No asbestos materials detected	NA	NA
Large shed, external, western retaining wall, concrete filled pipes	Fibre cement pipes	ASB01	NA	NA	NA	No asbestos materials detected	NA	NA
Small shed, throughout	No asbestos containing materials identified	Visual inspection	NA	NA	NA	No asbestos materials detected	NA	NA
SMF								
Residential building, external and internal, throughout	No SMF containing materials identified	Visual inspection	NA	NA	NA	NA	NA	NA

Hazardous Materials Register:

230 Aldington Road, Kemps Creek NSW

Location	Material Type	Sample / Photograph Reference	Quantity	Condition	Accessibility	Risk Priority Rating	Recommendations	Timing
Large shed, external and internal, throughout	No SMF containing materials identified	Visual inspection	NA	NA	NA	NA	NA	NA
Small shed, external and internal, throughout	No SMF containing materials identified	Visual inspection	NA	NA	NA	NA	NA	NA
Office/Flat, external and internal, throughout	No SMF containing materials identified	Visual inspection	NA	NA	NA	NA	NA	NA
Pump shed, external and internal, throughout	No SMF containing materials identified	Visual inspection	NA	NA	NA	NA	NA	NA
Lead Based Paints								
Residential building, external and internal, throughout	No lead based paint systems identified	Visual inspection	NA	NA	NA	NA	NA	NA
Large shed, external and internal, throughout	No lead based paint systems identified	Visual inspection	NA	NA	NA	NA	NA	NA

Hazardous Materials Register:

230 Aldington Road, Kemps Creek NSW

Location	Material Type	Sample / Photograph Reference	Quantity	Condition	Accessibility	Risk Priority Rating	Recommendations	Timing
Small shed, external and internal, throughout	No lead based paint systems identified	Visual inspection	NA	NA	NA	NA	NA	NA
Office/Flat, external and internal, throughout	No lead based paint systems identified	Visual inspection	NA	NA	NA	NA	NA	NA
Pump shed, external and internal, throughout	No lead based paint systems identified	Visual inspection	NA	NA	NA	NA	NA	NA
PCBs								
Large shed, internal, eastern store rooms	2 tube fluorescent light fittings	Visual inspection	12	Good	Maintenance Only	Priority 3 - Negligible Risk under Present Conditions	Remove prior to demolition works	September 2022
Residential building, external and internal, throughout – new style light fittings	No PCB containing materials were identified	Visual inspection	NA	NA	NA	NA	NA	NA
Small shed, external and internal, throughout	No PCB containing materials were identified	Visual inspection	NA	NA	NA	NA	NA	NA

Hazardous Materials Register:

230 Aldington Road, Kemps Creek NSW

Location	Material Type	Sample / Photograph Reference	Quantity	Condition	Accessibility	Risk Priority Rating	Recommendations	Timing
Office/Flat, external and internal, throughout	No PCB containing materials were identified	Visual inspection	NA	NA	NA	NA	NA	NA
Pump shed, external and internal, throughout	No PCB containing materials were identified	Visual inspection	NA	NA	NA	NA	NA	NA

APPENDIX B
Site Photographs

Photograph 1

Location: 230 Aldington Road, Kemps Creek NSW

The red arrow points to the Lister water pump that may contain asbestos gaskets.

APPENDIX C
Laboratory Results

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Kate Warton
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 95160722
Facsimile	(Not specified)
Email	Kate.Warton@eiaustralia.com.au
Project	**E23529 230 Aldington Rd Kemps Creek**
Order Number	**E23529**
Samples	3

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE169997 R0**
Date Received	06 Sep 2017
Date Reported	13 Sep 2017

COMMENTS

Accredited for compliance with ISO/IEC 17025-Testing. NATA accredited laboratory 2562(4354).

No trace asbestos fibres detected using trace analysis technique.

Asbestos analysed by Approved Identifier Ravee Sivasubramaniam .

SIGNATORIES

S. Ravee

Ravee Sivasubramaniam
Hygiene Team Leader

ANALYTICAL REPORT

RESULTS

Fibre ID in bulk materials — Method AN602

Laboratory Reference	Client Reference	Matrix	Sample Description	Date Sampled	Fibre Identification	Est.%w/w*
SE169997.001	ASB01	Other	30x25x6 mm Fibrous cement sheet	05 Sep 2017	No Asbestos Detected Organic Fibres Detected	
SE169997.002	ASB02	Other	40x30x5 mm Fibrous cement sheet	05 Sep 2017	No Asbestos Detected Organic Fibres Detected	
SE169997.003	ASB03	Other	35x30x4 mm Fibrous cement sheet	05 Sep 2017	No Asbestos Detected Organic Fibres Detected	

METHOD SUMMARY

SE169997 R0

METHOD	METHODOLOGY SUMMARY
AN602	Qualitative identification of chrysotile, amosite and crocidolite in bulk samples by polarised light microscopy (PLM) in conjunction with dispersion staining (DS). AS4964 provides the basis for this document. Unequivocal identification of the asbestos minerals present is made by obtaining sufficient diagnostic `clues`, which provide a reasonable degree of certainty, dispersion staining is a mandatory `clue` for positive identification. If sufficient `clues` are absent, then positive identification of asbestos is not possible. This procedure requires removal of suspect fibres/bundles from the sample which cannot be returned.
AN602	Fibres/material that cannot be unequivocably identified as one of the three asbestos forms, will be reported as unknown mineral fibres (umf). The fibres detected may or may not be asbestos fibres.

FOOTNOTES

Amosite	-	Brown Asbestos	NA	-	Not Analysed
Chrysotile	-	White Asbestos	LNR	-	Listed, Not Required
Crocidolite	-	Blue Asbestos	*	-	NATA accreditation does not cover the performance of this service.
Amphiboles	-	Amosite and/or Crocidolite	**	-	Indicative data, theoretical holding time exceeded.

(In reference to soil samples only) This report does not comply with the analytical reporting recommendations in the Western Australian Department of Health Guidelines for the Assessment and Remediation and Management of Asbestos Contaminated sites in Western Australia - May 2009.

Sampled by the client.

Where reported: 'Asbestos Detected': Asbestos detected by polarised light microscopy, including dispersion staining.
Where reported: 'No Asbestos Found': No Asbestos Found by polarised light microscopy, including dispersion staining.
Where reported: 'UMF Detected': Mineral fibres of unknown type detected by polarised light microscopy, including dispersion staining. Confirmation by another independent analytical technique may be necessary.

Even after disintegration it can be very difficult, or impossible, to detect the presence of asbestos in some asbestos-containing bulk materials using polarised light microscopy. This is due to the low grade or small length or diameter of asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials.

The QC criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: http://www.sgs.com.au/~/media/Local/Australia/Documents/Technical%20Documents/MP-AU-ENV-QU-022%20QA%20QC%20Plan.pdf