

INTRUSIVE HAZARDOUS MATERIALS REGISTER

KE1784

Date of assessment: 03 December 2019

Address: 360A Alderson Place, Tralee NSW 2620



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For: QPRC

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EXECUTIVE SUMMARY

Keane Environmental Pty Ltd was requested by Queanbeyan-Palerang Regional Council (QPRC) to undertake an Intrusive investigation at 360A Alderson Place, Tralee NSW 2620 for hazardous materials. The investigation took place on the 27 November and 03 December 2019.

A brief summary of the hazardous materials found is noted below:

- **A review of a previous environmental report and additional sampling revealed a number of areas with asbestos, see the asbestos register for locations and approximate quantities. All asbestos removalists pricing for the removal of the ACM must conduct a site visit to determine exact quantities.**
- **Light fittings were found to contain Polychlorinated Biphenyls (PCB) capacitors.**
- **The results of the survey found six (6) out of eleven (11) lead paint areas (based on the new criteria of the Australian Standards) on the site, however all of these paint samples were below the WHS lead work process percentage of 1%. The removal of these paints during the demolition works does not constitute lead process work and therefore no further action is required.**
- **No Synthetic Mineral Fibre (SMF) was found on site.**
- **No Ozone Depleting Substances (ODS) were found on site.**
- **A redundant above ground fuel storage tank (AST) was found on site.**

While every effort was made to identify all ACM on site, no determination can be made for areas such as formwork under concrete slabs or inaccessible areas that the asbestos assessor could not be reasonably expected to identify (e.g. subterranean asbestos pipes, formwork or ACM behind ACM).

INTRODUCTION

SCOPE OF WORKS

The assessment involved a desk top study of a previous environmental report and a visual inspection of hazardous materials and intrusive investigation of areas likely to contain ACM in the building and sampling of suspected ACM.

Samples collected during the audit were sent to a National Association of Testing Authorities (NATA) accredited laboratory under controlled chain of custody (CoC). The sample results can be found on the Certificate of Analysis attached at Laboratory certificates of this report. This intrusive inspection and any additional sampling was undertaken by Keane Environmental licensed asbestos assessors on the 27/11/2019 and 03/12/19.

HAZARDOUS MATERIALS

Hazardous materials have been widely used in the construction, insulation (asbestos), maintenance (lead paint), heating (heating oil) and cooling (ozone depleting substances) of built structures for many years. These materials can have adverse effects on human health and the environment.

The hazardous materials survey must identify, evaluate and propose a management plan (including the use of appropriately licensed contractors for the removal, transport and disposal) of all hazardous materials including fuel tanks, asbestos, lead, polychlorinated biphenyls (PCB) containing materials, Synthetic Mineral Fibre (SMF) and Ozone Depleting Substances which may be present on the site.

HAZARDOUS MATERIALS INFORMATION

ASBESTOS

Asbestos containing materials (ACMs) are categorised as friable and non-friable:

- Non-friable asbestos is usually bonded in a matrix after it has been mixed with other materials like cement or plastics. Non friable asbestos is most commonly found in the built environment.
- Friable asbestos is defined as any asbestos material in a powder form or can be crumbled, pulverised or reduced to a powder by hand pressure when dry and is much more likely to release airborne asbestos fibres.

Both friable and non-friable asbestos pose a significant health risk to all workers and others, and as such are governed by strict regulations and codes of practice. Asbestos containing materials must be identified and then properly managed until a time when they are to be carefully removed.

The Work Health Safety (WHS) Regulations set out the training and competency requirements for asbestos assessors, asbestos removal workers and supervisors. Under the Regulations, two licenses have been established — Class A and Class B. Businesses with a Class A license are permitted to remove all types of asbestos, including both friable and non-friable asbestos. Businesses with a Class B license can only remove non-friable asbestos.

ASBESTOS REMOVAL

A licensed asbestos removalist must be engaged for all asbestos removal work and they must notify Safework five (5) days prior to work commencing. An independent licensed asbestos assessor must be engaged to provide air monitoring for any friable asbestos removal and conduct a clearance inspection once the removal work is complete and issue a clearance certificate before demolition can commence.

LEAD-PAINT

Lead-based paint is paint containing lead that was used as pigment. The heavy metal was added to paint to speed drying, increase durability and for moisture resistance. Like all paint systems, leaded paint will chip, flake and peel over time, leading to contamination of indoor dust and exterior surrounding soils. Lead does not biodegrade, and so lead dust is a long-term exposure problem.

Lead is especially damaging to young children who are still developing, and to pregnant women. Lead affects the hematopoietic, neurologic, gastrointestinal, and reproductive systems, but predominantly the nervous system. High levels of exposure can result in miscarriage in women, and may affect fertility in men.

Lead has also been proven to affect a child's mental and physical growth. Unborn children can be exposed through their mothers. Harmful effects include premature birth, smaller babies, decreased mental ability in the infant, learning difficulties and reduced growth in young children.

Lead paint has been used extensively throughout residential and commercial buildings in Australia, and it was only in 1997 that the allowable level of lead in residential and commercial paint in Australia went down to 0.1% which is still higher than the US 1978 standard of less than 0.06% lead.

The new AS4361.2-2017 Guide to lead paint management Residential and commercial buildings now defines lead paint as paint film or component coat of a paint system in which the lead content (calculated as lead metal) is in excess of 0.1% by weight of the dry film as determined by laboratory testing. Additionally the Work Health and Safety Regulation 2011 Section 7.2 (h) states that 'Lead machine sanding or buffing surfaces coated with paint containing more than 1% by dry weight of lead' constitutes a lead process.

Lead Paint	(> 0.1% Pb)
Lead-free Paint	(< 0.1% Pb)

SYNTHETIC MINERAL FIBRES (SMF)

Synthetic mineral fibres (SMF) is a term used to describe a number of different fibrous materials made from silica, alumina, rock and glass. These materials have become an important replacement for asbestos within commercial buildings in a variety of products where thermal insulation, or electrical or fire protection is required. SMF is used commercially in construction and residential dwellings as insulation, reinforcement for cement, plaster and plaster materials.

Short-term exposure to SMF can produce skin, eye and upper respiratory tract irritation. Man made mineral fibres are referred to as MMMF and are also classed as synthetic mineral fibres.

POLYCHLORINATED BIPHENYLS (PCBs)

PCB is the common name for polychlorinated biphenyls. PCBs range in appearance from colourless, oily liquids to more viscous and increasingly darker liquids, to yellow then black resins, depending on chlorine content of the PCB. These synthetic compounds are chemically stable, have good insulating properties and do not degrade appreciably over time or with exposure to high temperatures. These properties made PCBs very useful in electrical devices such as capacitors.

PCBs can enter the body in three ways:

- absorption through the skin;
- inhalation of PCB vapour (at room temperature, the vapour concentrations of PCBs are not significant); and
- ingestion, if there is contamination of food or drink.

The likelihood of becoming sick from PCB exposure increases with the length of time and the amount of PCB that a person might come in contact with.

The most commonly observed symptom in people exposed to high levels of PCBs is a condition known as chloracne. It is a severe, persistent acne-like rash due to repeated and prolonged contact of PCBs with skin. This condition has also occurred in people who have accidentally ingested PCBs orally. Very high exposure to PCBs may also cause liver damage and damage to the nervous system, resulting in numbness, weakness and tingling in the arms and legs. There is the possibility that PCBs may cause cancers.

The major use of PCBs in the electrical industry has been as an insulating fluid inside transformers and capacitors. These transformers and capacitors have ranged in size from the very large transformers which contain several thousand litres of PCBs and were typically used by electrical supply businesses and heavy industries, to the small capacitors which may only contain several millilitres of PCBs and were used in farming equipment and on commercial premises. Capacitors containing PCBs were installed in various types of equipment including fluorescent light fittings during the 1950's, 60's and 70's. PCB-containing equipment within fluorescent light fittings is likely to have one or more of the following characteristics:

- resonant start or a capacitor that is cylindrical or rectangular, encased in an aluminium container with a weld running all the way around the top edge with two terminals with quick connect tags;

- a date mark from the 1950s, 1960s or 1970s;
- a capacitor encased in a rectangular tin container with soldered seams;
- slightly heavier than similar types of capacitors manufactured after the 1970s (which do not contain PCBs).

SAFE HANDLING & STORAGE OF PCBs

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 capacitor or a damaged capacitor should take the following precautions:

- put on personal protective equipment and clothing before removing damaged or leaking components;
- wear disposable 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);
- wear disposable overalls made of Tyvek or made of materials with similar chemical resistant properties;
- when working with overhead equipment (eg. fluorescent light fixtures), wear a full face shield and appropriate hair protection;
- wash any non-disposable contaminated equipment with kerosene and collect the kerosene for disposal as a PCB contaminated solvent;
- if PCB vapours are suspected (eg. PCB leaks onto a hot surface in a confined space), wear a suitable respirator. Use a twin cartridge type respirator suitable for chlorinated vapours. It is always prudent to ensure adequate ventilation. NOTE: PCBs do not vaporise readily at room temperature;
- 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.

OZONE DEPLETING SUBSTANCES

Ozone depleting substances (ODSs) are those substances which deplete the ozone layer and are widely used in refrigerators, air conditioners, fire extinguishers, in dry cleaning as solvents for cleaning, electronic equipment and as agricultural fumigants. Ozone depleting substances include:

- Chlorofluorocarbons (CFCs)
- Halon
- Carbon tetrachloride (CCl₄), Methyl chloroform (CH₃CCl₃)
- Hydrobromofluorocarbons (HBFCs)
- Hydrochlorofluorocarbons (HCFCs)
- Methyl bromide (CH₃Br)
- Bromochloromethane (CH₂BrCl)

There are other ozone depleting substances, but their ozone depleting effects are very small in comparison to these controlled substances. Refrigerants are identified by their R numbers on the label of the unit.

ABOVE GROUND FUEL STORAGE AND UNDER GROUND FUEL STORAGE (AST & UST)




Prior to the 1980s commercial AST & UST's generally used diesel or heating oils.




Australian Standard AS1940 defines a UST as any storage tank with more than 50% of its height buried below the surrounding ground gradient and mounded without any surrounding pit or chamber.




ASBESTOS RISK ASSESSMENT MATRIX




			EXPOSURE POTENTIAL				
			VERY HIGH (High traffic / occupied area or activities occurring likely to cause damage to the material e.g. Populated office area)	HIGH (Moderate traffic / occupied area or potential activities likely to cause damage to the material e.g. Corridor or change room)	MODERATE (Low traffic / occupied areas with activities unlikely to cause damage to the material e.g. Warehouse / storage rooms)	LOW (Unused rooms / ceiling areas within a building)	VERY LOW (E.g. Outdoors)
			Critical	Major	Moderate	Minor	Insignificant
T Y P E & C O N D I T I O N	FRIABLE & POOR e.g. Limpet spray or friable debris	Almost certain	Very High	Very High	High	High	High
	FRIABLE & FAIR e.g. Exposed pipe insulation	Likely	Very High	High	High	High	Moderate
	FRIABLE & GOOD e.g. Boiler gasket	Possible	High	Moderate	Moderate	Low	Low
	NON FRIABLE & POOR e.g. Weathered cement products with visible debris or residual friable asbestos	Unlikely	Moderate	Moderate	Low	Low	Low
	NON FRIABLE AND FAIR / GOOD e.g. Vinyl floor tiles, cement sheet	Rare	Low	Low	Low	Very Low	Very Low




ASBESTOS REGISTER




Asbestos detected				Presumed to contain asbestos			No asbestos detected	
LOCATION	MATERIAL	SAMPLE ID	Approx Qty m ²	TYPE & CONDITION	RISK OF EXPOSURE	RESULT	RECOMMENDATIONS	PHOTO
To shower wall in toilet/shower block	Sheet	A1	-	N/A	N/A	No Asbestos Detected	No further action required	
Packers between shower wall timbers in toilet/shower block	Sheet	A2	-	N/A	N/A	No Asbestos Detected	No further action required	
Rear toilet walls in toilet/shower block	Sheet	A3	-	N/A	N/A	No Asbestos Detected	No further action required	


Asbestos detected				Presumed to contain asbestos			No asbestos detected	
LOCATION	MATERIAL	SAMPLE ID	Approx Qty m ²	TYPE & CONDITION	RISK OF EXPOSURE	RESULT	RECOMMENDATIONS	PHOTO
Debris to toilet riser and in toilet/shower block	Sheet	A4	-	N/A	N/A	No Asbestos Detected	No further action required	
Mastic to window frames in toilet/shower block	Mastic	A5	12lm	Non friable & fair	Very Low	Chrysotile Asbestos Detected	Remove prior to demolition works commencing	
Debris around Kiosk	Sheet	A6	4	Non friable & poor	Low Moderate if disturbed	Chrysotile Asbestos Detected	Remove prior to demolition works commencing	

Asbestos detected				Presumed to contain asbestos			No asbestos detected	
LOCATION	MATERIAL	SAMPLE ID	Approx Qty m ²	TYPE & CONDITION	RISK OF EXPOSURE	RESULT	RECOMMENDATIONS	PHOTO
Kiosk eaves	Sheet	A7	16lm	Non friable & fair damaged	Low	Chrysotile Asbestos Detected	Remove prior to demolition works commencing	
Debris to mound in middle of speedway	Sheet	A8	-	N/A	N/A	No Asbestos Detected	No further action required	
Sheet debris at the front of stone house	Sheet	A9	<1	Non friable & fair	Low	Chrysotile Asbestos Detected	Remove prior to demolition works commencing	

Asbestos detected				Presumed to contain asbestos			No asbestos detected	
LOCATION	MATERIAL	SAMPLE ID	Approx Qty m ²	TYPE & CONDITION	RISK OF EXPOSURE	RESULT	RECOMMENDATIONS	PHOTO
Sheet debris at the around the stone house	Sheet	A10	<1	Non friable & fair	Low	Amosite, Chrysotile Asbestos Detected	Remove prior to demolition works commencing	
North side of AEC 1 - see site plan	Sheet	A11	-	Friable & good	Low. High if disturbed	Amosite, Chrysotile Asbestos Detected	Remove prior to demolition works commencing	
South side of AEC 1 - see site plan	Sheet	A12	-	Friable & good	Low. High if disturbed	Amosite, Chrysotile Asbestos Detected	Remove prior to demolition works commencing	

Asbestos detected				Presumed to contain asbestos			No asbestos detected	
LOCATION	MATERIAL	SAMPLE ID	Approx Qty m ²	TYPE & CONDITION	RISK OF EXPOSURE	RESULT	RECOMMENDATIONS	PHOTO
East side of AEC 1 - see site plan	Sheet	A13	-	Non friable & fair	Low	Amosite, Chrysotile Asbestos Detected	Remove prior to demolition works commencing	
West side of AEC 1 - see site plan	Sheet	A14	-	Non friable & fair	Low	Amosite, Chrysotile Asbestos Detected	Remove prior to demolition works commencing	
ESWB and debris to eastern edge of speedway track	Sheet	A15	-	Non friable & fair	Low	Chrysotile Asbestos Detected	Remove prior to demolition works commencing	

Asbestos detected				Presumed to contain asbestos			No asbestos detected	
LOCATION	MATERIAL	SAMPLE ID	Approx Qty m ²	TYPE & CONDITION	RISK OF EXPOSURE	RESULT	RECOMMENDATIONS	PHOTO
Debris east side outside of speedway track - removed during sampling	Sheet	A16	-	Non friable & fair	Low	Chrysotile Asbestos Detected	Remove prior to demolition works commencing	
SW corner outside track - mixed with rubble - pipe and debris	Sheet	A17	20	Non friable & fair	Low	Chrysotile Asbestos Detected	Remove prior to demolition works commencing	
SW corner outside track - mixed with rubble sheet debris - possibly buried at depth	Sheet	A18	>20m3	Non friable & fair	Low	Chrysotile Asbestos Detected	Remove prior to demolition works commencing	

Asbestos detected				Presumed to contain asbestos			No asbestos detected	
LOCATION	MATERIAL	SAMPLE ID	Approx Qty m ²	TYPE & CONDITION	RISK OF EXPOSURE	RESULT	RECOMMENDATIONS	PHOTO
Fire damaged sheet debris see site plan	Sheet	A19	50m3	Non friable & good	Low	Chrysotile Asbestos Detected	Remove prior to demolition works commencing	

FINDINGS & RECOMMENDATIONS

The asbestos containing material (ACM) noted in the asbestos register must be removed prior to demolition works commencing. The unexpected finds procedure must be used at Appendix B if any suspected ACM is found that is not noted in this document.

Notes: The fire damaged material and construction waste must be as asbestos contaminated waste. Asbestos pipe conduits and sheet debris was found at the south west area of the site and may be buried at depth. Additionally an area (see attached plan) has asbestos contamination in the soil and should be stockpiled and waste classified prior to disposal off site.

ASBESTOS REMOVAL




A licensed asbestos removalist must be engaged for all asbestos removal work and they must notify Safework NSW five (5) days prior to work commencing. An independent licensed asbestos assessor must be engaged to provide air monitoring for any friable asbestos removal and conduct a clearance inspection once the removal work is complete and issue a clearance certificate before refurbishment can commence in the affected area.

LEAD-PAINT REGISTER

Lead Paint (> 0.1% Pb)

Lead-free Paint (< 0.1% Pb)

LOCATION	COLOUR	SAMPLE ID	TYPE & CONDITION	RESULT	COMMENTS	PHOTO OF PAINT
To site debris	Red	P1	Lead & Fair	<0.17	No action required	
To Kiosk fascia panels	Blue	P2	Lead & Fair	0.70	No action required	
To Kiosk walls	White	P3	Lead Free	0.080	No action required	

LOCATION	COLOUR	SAMPLE ID	TYPE & CONDITION	RESULT	COMMENTS	PHOTO OF PAINT
To window frames and door frames to main building	Grey	P4	Lead & Fair	<0.13	No action required	
To window frame and walk way to main building and attach metal walk way	Brown	P5	Lead Free	0.005	No action required	
To internal walls	White	P6	Lead & Fair	0.14	No action required	

LOCATION	COLOUR	SAMPLE ID	TYPE & CONDITION	RESULT	COMMENTS	PHOTO OF PAINT
To timbers at the house and rear of house	Red/White	P7	Lead Free	<0.01	No action required	
To timbers at the house and rear of house	Blue/White	P8	Lead & Fair	0.22	No action required	
To internal timber of the house	Red/White	P9	Lead Free	0.01	No action required	

LOCATION	COLOUR	SAMPLE ID	TYPE & CONDITION	RESULT	COMMENTS	PHOTO OF PAINT
To timber retaining walls around speedway track	White/red	P10	Lead & Fair	0.14	No action required	
To metal posts	White	P11	Lead Free	0.01	No action required	

FINDINGS & RECOMMENDATIONS

Representative lead paint sampling was conducted over the whole site. The results of the survey found six (6) out of eleven (11) lead paint areas (based on the new criteria of the Australian Standards) on the site, however all of these paint samples were below the WHS lead work process percentage of 1%. The removal of these paints during the demolition works does not constitute lead process work and therefore no further action is required.

POLYCHLORINATED BIPHENYLS (PCB) REGISTER

LOCATION	MATERIAL	QUANTITY	TYPE	RECOMMENDATIONS	PHOTO
To small single fluorescent light fittings in debris	PCB	1	Ducon	Remove prior to demolition dispose of as hazardous waste	
To light fittings on metal signage board south east of speedway track	PCB	12	Ducon APF 228 CR	Remove prior to demolition dispose of as hazardous waste	

FINDINGS & RECOMMENDATIONS

Light fittings were found to contain Polychlorinated Biphenyls (PCB) capacitors and must be removed prior to demolition works commencing and disposed of as hazardous waste.

Fluorescent tubes and compact fluorescent lamps (CFL) contain small amounts of mercury in the phosphor powder and lining of the lamps; between 3.5 to 9 mg of mercury is contained in a 120 cm fluorescent tube. Shattering a fluorescent tube will disperse the phosphor powder and glass contaminated by the mercury. Mercury is classified as a workplace hazardous substance.

Regular breaking of multiple fluorescent tubes in a confined space without appropriate personal protective equipment may create health risks from the long-term exposure to mercury vapour and contaminated substances. Glass fragments also pose risks of penetration and cutting injuries. All fluorescent tubes must be stored safely prior to disposal. Due to their mercury content, the Environment Protection Act 1997 and National Environment Protection Measure (NEPM), consider fluorescent tubes/CFL as controlled waste. Fluorescent tubes/CFL must be disposed of using a licensed or authorised hazardous waste contractor in an appropriately licensed or authorised facility.

SAFE HANDLING & STORAGE OF PCBs

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 capacitor or a damaged capacitor should take the following precautions:

- put on personal protective equipment and clothing before removing damaged or leaking components;
- wear disposable 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);
- wear disposable overalls made of Tyvek or made of materials with similar chemical resistant properties;
- wash any non-disposable contaminated equipment with kerosene and collect the kerosene for disposal as a PCB contaminated solvent;
- if PCB vapours are suspected (eg. PCB leaks onto a hot surface in a confined space), wear a suitable respirator. Use a twin cartridge type respirator suitable for chlorinated vapours. It is always prudent to ensure adequate ventilation. NOTE: PCBs do not vaporise readily at room temperature;
- 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.

SYNTHETIC MINERAL FIBRE (SMF) REGISTER

FINDINGS & RECOMMENDATIONS

No Synthetic mineral fibre (SMF) was found on site. No further action required.

OZONE DEPLETING SUBSTANCES REGISTER

FINDINGS & RECOMMENDATIONS

No ozone depleting substances were found on site. No further action required.

ABOVE GROUND STORAGE TANKS & UNDER GROUND STORAGE TANKS

LOCATION	TYPE OF STORAGE TANK	TYPE	RECOMMENDATIONS	PHOTO
At north side of site	Fuel	AST	Remove prior to site development	

FINDINGS & RECOMMENDATION

A small redundant AST were observed on the north side of the site, and must be checked for residual fuel prior to disposal..

CRYSTALLINE SILICA

Silica is a natural substance found in most rocks, sand and clay and in products such as bricks and concrete. Silica is also used as filler in some plastics. In the workplace these materials create dust when they are cut, sanded or disturbed. Some of this dust may be fine enough to breathe deeply into the lungs and cause harm to the health of workers. The fine dust is called respirable crystalline silica (RCS) and is too fine to see with normal lighting. The table below notes the quantity of silica contained in stone and other materials which varies considerably between different types of stone:

Approximate crystalline silica content of different materials	
Sandstone	70–90%
Concrete, mortar	25–70%
Tile	30–45%
Granite	20–45%, typically 30%
Slate	20–40%
Brick	Up to 30%
Limestone	2%
Marble	2%

RECOMMENDATIONS

The demolition contractor must ensure that no person at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the exposure standard for the substance or mixture. The demolition contractor must ensure good dust suppression techniques are employed during all phases of the demolition process.

APPENDIX A - ASBESTOS LABORATORY CERTIFICATES



JMB Environmental Consulting Pty Ltd
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Certificate of Analysis – Asbestos Identification REPORT NUMBER : KE178409122019AID

CLIENT : Keane Environmental JOB NUMBER : KE1784
CLIENT CONTACT : Ged Keane DATE RECEIVED : 06/12/2019
CLIENT REFERENCE : 360A Alderson Place, Traloe NSW 2620 DATE ANALYSED : 6-9/12/2019
CLIENT EMAIL : ged@keaneenviro.com.au REPORT DATE : 09/12/2019
CLIENT TELEPHONE : 0418289182 SAMPLE DATE : 03/12/2019

Test method:

Asbestos fibre qualitative determination in bulk & soil samples at JMB Environmental Consulting Pty Ltd (JMBEC) laboratory, is conducted by polarised light microscopy, in conjunction with the dispersion staining technique. The strategies and methods used are as per AS4984(2004) and in-house SOP JMBEC D123. All results of the tests, calibrations, and records are traceable to the Australian national standard. Accredited for compliance with ISO/IEC 17025 - Testing. NATA accreditation number 19564

SAMPLE REFERENCE	LABORATORY REFERENCE	SAMPLE INFORMATION	SAMPLE DIMENSIONS (mm) / WEIGHT (g)	ANALYTICAL RESULT
A1	KE1784-A1	Flat cement sheets	5.00	NAD, ORG
A2	KE1784-A2	Flat cement sheets	6.00	NAD, ORG
A3	KE1784-A3	Flat cement sheets	6.00	NAD, ORG
A4	KE1784-A4	Flat cement sheets	29.00	NAD, ORG
A5	KE1784-A5	Mastic	4.00	CHR
A6	KE1784-A6	Flat cement sheets	22.00	CHR
A7	KE1784-A7	Flat cement sheets	6.00	CHR
A8	KE1784-A8	Flat cement sheets	5.00	NAD, ORG
A9	KE1784-A9	Flat cement sheets	3.00	CHR
A10	KE1784-A10	Flat cement sheets	6.00	CHR
A11	KE1784-A11	Flat cement sheets	6.00	CHR
A12	KE1784-A12	Flat cement sheets	4.00	CHR
A13	KE1784-A13	Flat cement sheets	3.00	CHR
A14	KE1784-A14	Flat cement sheets	13.00	CHR
A15	KE1784-A15	Electrical Switch Board Backing	32.00	CHR
A16	KE1784-A16	Flat cement sheets	44.00	CHR
A17	KE1784-A17	Pipe Conduit	9.00	CHR
A18	KE1784-A18	Flat cement sheets	24.00	CHR
A19	KE1784-A19	Flat cement sheets	22.00	CHR

Legend:

NAD: No asbestos detected
NADR: No asbestos found, at the reporting limit (0.1 g/kg / 0.01%)
CHR: Chrysotile asbestos detected
AMO: Amosite asbestos detected
CRO: Crocidolite asbestos detected
ORG: Organic fibre detected
BMF: Synthetic mineral fibre detected
UMF: Unknown mineral fibre detected



Approved analyst

Name : Charly Golding

Signature :

Approved Signatory

Name : Rob Whitehouse

Signature :

Glossary and notes:

- AS4984 recommends minimum sample sizes for all materials. In particular, soil sample volume is 50-100ml (approximately 50 to 250g). It is the sampling party's responsibility to meet this recommendation.
- Other analytical reporting limits outside of mentioned scope is not covered by NATA accreditation, such as NATA WA.
- JMBEC require receipt of all samples under a chain of custody, however JMBEC except no responsibility for the sampling method/location/transportation or packaging of samples from external sources.
- No asbestos detected by Polarised Light Microscopy in conjunction with Dispersion staining techniques. The client is advised to obtain a further result from an independent confirmatory analytical technique due to the nature of sample, e.g. scanning electron microscopy (SEM).

APPENDIX B - LEAD-PAINT LABORATORY CERTIFICATES



EnviroLab Services Pty Ltd

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CERTIFICATE OF ANALYSIS 232406

Client Details	
Client	Keane Environmental Pty Ltd
Attention	Ged Keane
Address	Unit 1 - 301 Canberra Ave, FYSHWICK, ACT, 2609

Sample Details	
Your Reference	<u>KE1784 - QPRC. Speedway</u>
Number of Samples	11 Paint
Date samples received	05/12/2019
Date completed instructions received	05/12/2019

Analysis Details	
Please refer to the following pages for results, methodology summary and quality control data.	
Samples were analysed as received from the client. Results relate specifically to the samples as received.	
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.	

Report Details	
Date results requested by	05/12/2019
Date of Issue	05/12/2019
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Client Reference: KE1784 - QPRC, Speedway

Lead In Paint						
Our Reference		232406-1	232406-2	232406-3	232406-4	232406-5
Your Reference	UNITS	P1	P2	P3	P4	P5
Date Sampled		03/12/2019	03/12/2019	03/12/2019	03/12/2019	03/12/2019
Type of sample		Paint	Paint	Paint	Paint	Paint
Date prepared	-	05/12/2019	05/12/2019	05/12/2019	05/12/2019	05/12/2019
Date analysed	-	05/12/2019	05/12/2019	05/12/2019	05/12/2019	05/12/2019
Lead in paint	%w/w	0.17	0.70	0.080	0.13	0.005

Lead In Paint						
Our Reference		232406-6	232406-7	232406-8	232406-9	232406-10
Your Reference	UNITS	P6	P7	P8	P9	P10
Date Sampled		03/12/2019	03/12/2019	03/12/2019	03/12/2019	03/12/2019
Type of sample		Paint	Paint	Paint	Paint	Paint
Date prepared	-	05/12/2019	05/12/2019	05/12/2019	05/12/2019	05/12/2019
Date analysed	-	05/12/2019	05/12/2019	05/12/2019	05/12/2019	05/12/2019
Lead in paint	%w/w	0.14	0.01	0.22	0.01	0.14

Lead In Paint		
Our Reference		232406-11
Your Reference	UNITS	P11
Date Sampled		03/12/2019
Type of sample		Paint
Date prepared	-	05/12/2019
Date analysed	-	05/12/2019
Lead in paint	%w/w	0.01

Client Reference: KE1628 Pacific Lodge Cooma

Method ID	Methodology Summary
Metals-004	Digestion of Paint chips/scrapings/liquids for Metals determination by ICP-AES/MS and or CV/AAAS.

Client Reference: KE1628 Pacific Lodge Cooma

QUALITY CONTROL: Lead in Paint						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			09/10/2019	1	09/10/2019	09/10/2019		09/10/2019	[NT]
Date analysed	-			09/10/2019	1	09/10/2019	09/10/2019		09/10/2019	[NT]
Lead in paint	%w/w	0.005	Metals-004	<0.005	1	9.6	9.9	3	98	[NT]

QUALITY CONTROL: Lead in Paint						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	09/10/2019	09/10/2019		[NT]	[NT]
Date analysed	-			[NT]	11	09/10/2019	09/10/2019		[NT]	[NT]
Lead in paint	%w/w	0.005	Metals-004	[NT]	11	14	14	0	[NT]	[NT]

Client Reference: KE1628 Pacific Lodge Cooma

Result Definitions	
NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions	
Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	

Client Reference: KE1628 Pacific Lodge Cooma

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

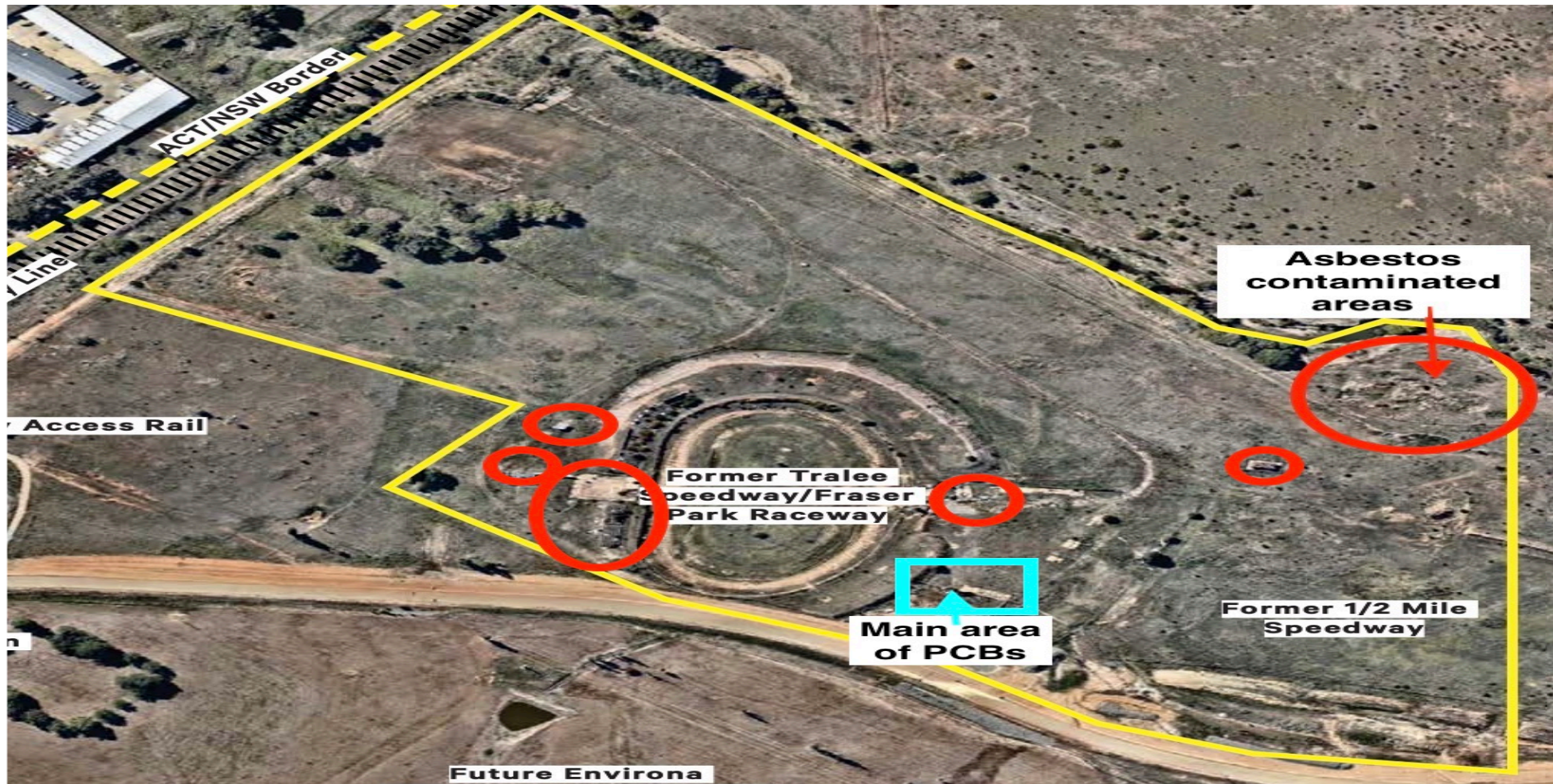
When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

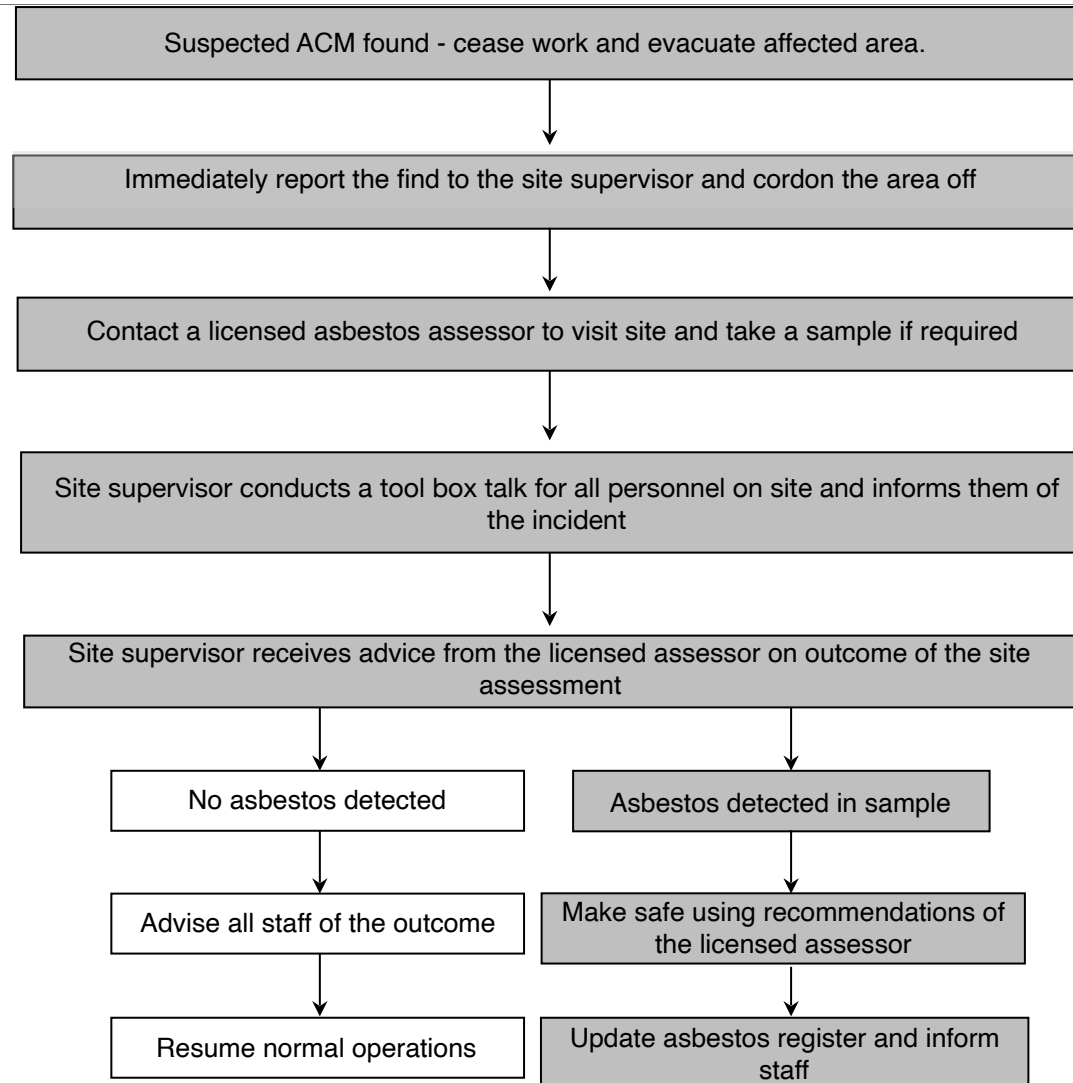
Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

APPENDIX C - SITE PLAN



APPENDIX D - UNEXPECTED FINDS PROCEDURE



APPENDIX E - APPLICABLE LEGISLATION – PRE-DEMOLITION HAZMAT ASSESSMENTS

The latest edition of the following legislation is applicable to Hazardous Material Assessments in Non Residential Properties:

Work Health and Safety Act 2011.

Work Health and Safety Regulation 2017.

How to Manage and Control Asbestos in the Workplace Code of Practice 2019

How to Safely Remove Asbestos Code of Practice 2019

National Code of Practice for the Safe Use of Synthetic Mineral Fibre [NOHSC:2006(1990)];

National Standard for Synthetic Mineral Fibres [NOHSC:1004(1990)];

Guide to Lead Paint Management, Part 2: Residential and Commercial Buildings Standards Australia, AS 4361.2 - 2017;

Identification of PCB-Containing Capacitors; An information Booklet for Electricians and Electrical Contractors ANZECC 1997;

The Australian Refrigeration and Air-conditioning Code of Good Practice Standards Australia, HB 40.1 – 2001.

Report Caveats & Statement of Limitations

The report was designed to be read as a whole document and must only be reproduced in full.

All relevant legislation and best practice was followed during the time the assessment was conducted. All conclusions and recommendations are written by the assessor using their professional judgement. The recommendations are based on the assessor's professional judgement and condition of the materials at the time the assessment was conducted.

While every effort was made to identify all ACM on site, no determination can be made for areas such as formwork under concrete slabs or inaccessible areas that the asbestos assessor could not be reasonably expected to identify (e.g. subterranean asbestos pipes, formwork or ACM behind ACM).