

HAZARDOUS MATERIALS SURVEY REPORT (HAZMAT)

HYAMS BEACH RFS ROSE ST, HYAMS BEACH, NSW 2540 LOT 78-79 DP 755907

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EXECUTIVE SUMMARY

Environment & Natural Resource Solutions (ENRS Pty Ltd) were commissioned as independent environmental consultants by *Shoalhaven City Council* (the client), to conduct a Hazardous Materials Survey on the Hyams Beach Rural Fire Service (RFS) station at Rose St, Hyams Beach, NSW 2540 (herein referred to as the Site).

ENRS understands this register has been prepared to meet conditions of the *Work Health and Safety Act* (2011) which states; the person with management or control of a workplace must ensure, so far as is reasonably practicable, that the workplace, the means of entering and exiting the workplace and anything arising from the workplace are without risks to the health and safety of any person.

The aim of the project was to conduct an inspection of the buildings on Site and identify Hazardous Materials within the buildings structure and document the results in a materials survey register.

The scope of work for the project comprised the following tasks:

- Conduct Site inspection and building survey of accessible external and internal areas of buildings (14/05/2021);
- Identify potential hazardous materials. Where necessary obtain representative material samples and submit for NATA accredited laboratory analysis; and
- > Review survey results and prepare a Hazardous Materials Register.

Based on the results of the site inspection and NATA accredited laboratory analysis the following conclusions and recommendations are provided:

- This survey was limited to accessible areas of the above ground structures presented in Appendix A. Assessment of ground and soil conditions was not conducted as part of this survey;
- Non-friable Asbestos Containing Materials were identified by visual observation (VO) and NATA accredited laboratory analysis within the building. At the time of this assessment, the ACM was considered to be non-friable and in fair to good condition. The quantity of non-friable asbestos is estimated to comprise ~125 m² of bonded ACM. The reader is referred to Appendix A for a Site-specific register and Site Photographs;
- Friable Asbestos in building dust was identified through NATA accredited laboratory analysis within the Fire Tender Room (Garage). At the time of this assessment, the internal surfaces of the external corrugated asbestos 'shadow line' walls to the Fire Tender room were considered to be Friable. These surfaces were not painted and in a deteriorated state which had likely shed fibres into building dust. The external surfaces of the building are sealed with paint and were considered to be bonded. Garage Tender Room is estimated to contain ~45 m² of Friable Asbestos in Dust. The reader is referred to Appendix A for a Site-specific register and Site Photographs; and
- Asbestos Fibre Background Air Monitoring was conducted in the Meeting Hall and Outside the Garage Roller Door. Air monitoring results were reported below the lowest detectable limit of <0.01fb/mL.</p>



- Laboratory analysis of the two (2) paint samples reported results below the threshold criteria outlined in AS/NZS 4361.1:2017. No further action is required.
- Light fittings were visually observed at the site and were presumed to contain PCB's inside capacitors (ANZECC;1997). PCBs are to be managed in accordance with the Code of Practice: Demolition work (SafeWork NSW; 2019);
- SMF was identified in linoleum within the Kitchen and Hallway. SMF is to be managed in accordance with the Code of Practice: Demolition work (SafeWork NSW; 2019);
- Hazardous chemicals associated with commercial cleaning products and mechanic fluids, were observed in the Store room. Hazardous Chemicals should be removed and transported in accordance with the following Codes of Practice: Managing risks of hazardous chemicals in the workplace (SafeWork NSW; 2019); Demolition work (SafeWork NSW; 2019);and Australian Code for the Transport of Dangerous Goods by Road &Rail Edition 7.6 2018 (NTC; 2018)
- No entry is permitted to the Site without supervision of a Licenced Asbestos Assessor (LAA) or Class 'A' Asbestos removal contractor, due to the identification of friable-asbestos;
- Hazardous Materials controls must remain in-place until a clearance certificate (CC) is issued for the Site;
- Asbestos warning signs must be affixed at each point of entry;
- The external building integrity of the Fire Tender Room should continue to be inspected to ensure no external openings;
- Friable Asbestos removal works must be conducted by a Class A Licensed asbestos removalist in accordance with Code of Practice – How to Safely Remove Asbestos (SafeWork NSW;2019);
- Non-friable Asbestos removal works at the Site must be conducted by a minimum Class B Licensed asbestos removalist in accordance with Code of Practice - How to Safely Remove Asbestos (SafeWork NSW;2019);
- Should any other materials of concern be uncovered during renovation or demolition works, the works should stop immediately and be managed in accordance with an Unexpected Finds Protocol (UFP). A suitably qualified environmental professional should be notified to re-assess the area; and
- Should any change in Site conditions or incident occur which causes a potential change in conditions, ENRS should be notified to further assess the site and consider requirements for any additional assessment or monitoring.
- This report must be read in full in conjunction with the attached Statement of Limitations. Should the reader have any queries regarding this letter report, please do not hesitate to contact the author for further information or assistance.



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1.0 INTRODUCTION

Environment & Natural Resource Solutions (ENRS Pty Ltd) were commissioned as independent environmental consultants by *Shoalhaven City Council* (the client), to conduct a Hazardous Materials Survey on the Hyams Beach Rural Fire Service (RFS) station at Rose St, Hyams Beach, NSW 2540 (herein referred to as the Site).

ENRS understands this register has been prepared to meet conditions of the *Work Health and Safety Act* (2011) which states; the person with management or control of a workplace must ensure, so far as is reasonably practicable, that the workplace, the means of entering and exiting the workplace and anything arising from the workplace are without risks to the health and safety of any person.

1.1 OBJECTIVES

The aim of the project was to conduct an inspection of the buildings on Site and identify Hazardous Materials within the buildings structure and document the results in a materials survey register.

1.2 SCOPE OF WORK

The scope of work for the project comprised the following tasks:

- Conduct Site inspection and building survey of accessible external and internal areas of buildings (14/05/2021);
- Identify potential hazardous materials. Where necessary obtain representative material samples and submit for NATA accredited laboratory analysis; and
- Review survey results and prepare a Hazardous Materials Register.

2.0 LEGISLATIVE REQUIREMENTS

2.1 YOUR OBLIGATIONS

A hazardous materials survey fulfils your obligations as a building manager or owner by:

- Meeting your occupational health and safety legislative requirements to protect workers and building occupiers from hazardous materials;
- Meeting legislative requirements for the register and management of asbestos in the workplace under the NSW Work Health and Safety Act 2011 (WHS Act 2011) and the Work Health and Safety Regulation 2017 (WHS Regulation 2017);
- Complying with the hazardous materials auditing procedure (clause 1.6) of the AS 2601 the Demolition of Structures;
- Responding to workplace concerns;



- Meeting the needs of property buyers, sellers and developers;
- General due diligence;
- Meeting development approval;
- > Environmental due diligence; and
- Addressing health and safety requirements identified before major refurbishment and demolition.

2.2 ASBESTOS LEGISLATION

In NSW, asbestos is regulated under the NSW Work Health and Safety Act 2011 (WHS Act 2011) and the Work Health and Safety Regulation 2011 (WHS Regulation 2017). Chapter 8 of the *WHS Regulation 2017* outlines the specific requirements for asbestos management, removal work, and licensing.

2.3 CODES OF PRACTICE & STANDARDS

Specific requirements on how to manage hazardous materials and comply with the WHS laws are provided in the following Codes of Practice and must be adhered to during the scope of work:

- Code of Practice- Demolition Work (SafeWork NSW, 2019);
- Code of Practice How to Manage and Control Asbestos in the Workplace (SafeWork NSW;2019);
- > Safe Work Australia (2019) Workplace Exposure Standards for Airborne contaminants;
- Code of Practice How to Safely Remove Asbestos (SafeWork NSW;2019);
- Code of Practice Managing risks of hazardous chemicals in the workplace (SafeWork NSW;2019;
- Code of Practice Demolition work (SafeWork NSW;2019);
- Code of Practice Australian Code for the Transport of Dangerous Goods by Road & Rail edition 7.6 2018 (NTC 2018);
- Australian Standard AS4361.2 (2017) Guide to hazardous paint management. Part 1. Lead and other hazardous pigments in industrial applications; and
- Australian Standard AS4361.2 (2017) Guide to hazardous paint management. Part 2. Lead Paint in residential, public and commercial buildings.

2.4 INDUSTRY GUIDELINES

Management of asbestos shall be conducted in accordance with the following industry guidelines:

> NSW EPA Guidelines for Asbestos and Fire-Damaged Buildings (EPA;2015);



- SafeWork NSW (2015) Safe management of synthetic mineral standards (SMF) glasswool and rockwool. May 2015;
- Managing asbestos in or on soil (WorkCover NSW;2014);
- Guidance Note on the Membrane Filter Method (MFM) for Estimating Airborne Asbestos Fibres, 2nd Edition [NOHSC:3003 (2005)]; and
- NEPC (2013). National Environment Protection (Assessment of Site Contamination) Measure.

3.0 SURVEY METHODOLOGY

This hazardous material survey was conducted in general accordance with AS/NZS ISO/IEC 17020:2013: Requirements for Bodies Performing Inspections. Hazardous materials surveys are carried out applying a risk management approach to:

- Identify;
- Assess; and
- > Ultimately Control the risk associated with the identified materials.

A semi-quantitative asbestos risk assessment methodology was applied to assess the risk of all identified hazardous materials situations. A HazMat survey includes material such as; asbestos (AS); synthetic mineral fibre (SMF); heavy metals in paint systems (As, Cd, Zinc Chromate as Cr and Pb); and Polychlorinated Biphenyls (PCB).

3.1 SITE INSPECTION

ENRS conducted a walk-through survey on the **14**th of **May 2021**. The survey was limited to the following areas at the time of inspection:

- Meeting Room (internal and external);
- Fire Tender (Garage)(internal and external);
- Kitchen (internal and external);
- Hallway (internal);
- Store (internal); and
- > Toilet and Disabled Toilet (external only).

No inspection was carried out in:

- Toilet and Disabled Toilet (internal areas);
- > Voids within ceiling, walls, and floor; and
- Subsurface areas.



A Site plan outlining the areas inspected as part of this scope of works is provided in **Figure 1** attached.

3.2 PERSONNEL

The survey was undertaken by ENRS professionals under the supervision of Safe Work NSW accredited Friable Asbestos Assessor, Matt Korvin (LAA001302). ENRS surveyors are experienced in identifying hazardous material and conducting HazMat surveys. Surveyors are trained by and 'shadowed' on numerous diverse sites by a competent and experienced surveyor prior to carrying out independent surveys. There is however still a possibility that some hazardous (asbestos) materials may not be identified as any surveying is subject to limitations such as the information and access made available at the time of the survey by the client.

3.3 SAMPLING METHODS

The surveyor may sample areas suspected to contain asbestos material to confirm or refute the presence of asbestos fibres within the sampled materials. Sample collection is conducted in a non-destructive and non-invasive manner. All sampling is undertaken by use of **representative sampling** with consideration of material heterogeneity or the degree of variation in composition. If similar materials or areas of concern are identified, duplicate sampling was not required as this will further reduce; the risk of disturbance; exposure to occupants and the surveyor; and analytical costs for the client.

Sampling for asbestos materials may require confirmation by laboratory analysis. Results from any performed NATA accredited laboratory analysis shall be included in the hazardous materials register.

Presumptive samples (visual observations - VO) was also included in the hazardous materials register where no actual sample was collected. These were supported by sufficient reason to presume that an hazardous situation may be present, or no access and/or safe access for sampling and/or no visual access can be obtained.

A standard hazardous materials survey does not include access and inspection of any areas that will require special access permits or other means of access to restricted areas such as confined spaces, work at height, isolation of energy services, live equipment and mechanical building services, partial demolition of structures and similar access limitations.

All properties will have concealed materials in its current state that cannot be accessed or revealed prior to commencement of demolition of the structure(s). Ongoing assessment of building materials is recommended and required during any such structural work and should be carried out by hazardous materials awareness trained personnel. Where any suspected material is uncovered an experienced hazardous materials consultant should be contacted to sample, risk assess and document the finding(s).



4.0 HAZARDOUS MATERIALS METHOD OF DETECTION

4.1 ASBESTOS

4.1.1 Hazard group

- AM = Amosite or brown asbestos
- CR = Crocidolite or blue asbestos
- CH = Chrysotile or white asbestos
- NAD = No asbestos detected

4.1.2 Method of Detection

Asbestos is the fibrous form of mineral silicates belonging to the Serpentine and Amphibole groups of rock forming minerals, including amosite (brown asbestos), crocidolite (blue asbestos), chrysolite (white asbestos), tremolite, actinolite, anthophyllite or any mixture containing one or more of these. The presence of asbestos in a bulk sample is determined by Polarised Light Microscopy (PLM) with dispersion staining techniques. The quantity of airborne asbestos is determined by the membrane filter method. Supplementary testing may be conducted using Scanning Electron Microscopy (SEM) with Energy Dispersive Xray Analysis (EDAX).

4.2 SYNTHETIC MINERAL FIBRE

4.2.1 Synthetic Mineral Fibre – hazard group

SMF = Synthetic Mineral Fibre.

4.2.2 Synthetic Mineral Fibre (SMF) – method of detection

Synthetic Mineral Fibres (SMFs), are a group of amorphous substances that have been fiberized by mechanical means, such as spinning or blowing during manufacturing, these include:

- Glasswood (Fibreglass) is fiberized glass
- Rockwool is fibrised basalt rock. Sometimes furnace slag may be added to the basalt rock and fiberized to form slagwool.
- > Ceramic fibre is fiberized kaolin clays (alumia and silica mixtures)

Reinforcing filament is manufactured by drawing molten glass into long filaments.

SMF's are identified by visual observation or by optical microscopy techniques. SMF's should be disposed of at industrial waste facilities.



4.3 HAZARDOUS METALLIC PIGMENTS

4.3.1 Hazard Group

Hazard Group includes Lead, Zinc Chromate(as Cr), Arsenic and Cadmium. Lead in the form of various oxides or salts and other hazardous metallic pigments form the basis of anti-corrosive primers and various colour pigments used in paints for over 100 years. Paints manufactured since 1997 contain less than 0.1% of Lead, and this limit has been adopted for the definition of lead-containing paint in the Australian Standard AS4361.2 (2017). For the purpose of this assessment, the lowest threshold criteria within AS4361.1-2017 (**Table 1** below) of 0.25% had been adopted for the definition of Zinc Chromate (as Cr), Arsenic and Cadmium containing paint.

Hazard	Total Mass of Paint (kg)					
Παζαι υ	>250	50-250	<50			
Lead	0.1	0.25	1.0			
Zinc Chromate (as Cr)	0.05	0.1	0.25			
Arsenic	0.05	0.1	0.25			
Cadmium	0.05	0.1	0.25			

Table 1 Criteria for Hazardous Paint Projects (% By Weight)

Source: AS4361.1-2017 Table 1.

4.3.2 Method of Detection

The presence of hazardous metallic pigments in paint is determined by Atomic Absorption Spectroscopy (AAS) via an acid digest solution. The results are expressed by the lead concentration by weight of paint either as a percentage or as mg/kg.

4.4 POLYCHLORINATED BIPHENYLS

4.4.1 Hazard Group

PCB's = Polychlorinated Biphenyls.

Non-PCB's = Materials identified as 'Not containing" PCBs.

4.4.2 Method of Detection

Methods for detection of PCBs are outlined in the ANZECC (1997) Identification of PCBcontaining capacitors. Polychlorinated Biphenyls (PCB's), are a group of synthetic chlorinated organic compounds that are very stable and resist change from influence of age, temperature, acids, and alkalis. PCB's have been an important constituent in many industrial products since the early 1940's.



Capacitors in fluorescent light fittings are identified against a check list via the make, type and capacitance (μ F). Then reported for PCB content.

PCB's in mastic and other samples are determined by extraction with n-hexane and then analysis by gas chromatography using an Electron Capture (ECD) detector. The typical detection limit is 2 mg per kg.

Materials with a concentration less than 2 mg/kg are considered "PCB free" and can be disposed of as general waste.

Materials with a concentration greater than 2 mg/kg are subject to special disposal requirements. The concentration determines the restrictions.

4.5 HAZARDOUS CHEMICALS

Safe Work NSW (2019) refers to hazardous chemicals as "a set of intrinsic properties of the substance, mixture, article or process that may cause adverse effects to organisms or the environment". Hazardous chemicals are required to be stored in a sheltered, sign posted area in accordance with the Code of Practice: Managing risks of hazardous chemicals in the workplace (SafeWork NSW; 2019). Typically, hazardous chemicals are identified by the labels on the chemical storage container or drum, or on signage adhered to wall linings within storage rooms, or within a Site's Hazardous Chemical Register.

5.0 HEALTH RISKS

5.1 ASBESTOS

The related health aspects of exposure to airborne asbestos fibres has been documented in the Code of Practice: How to Manage and Control Asbestos in the Workplace (Safe Work Australia;2016). The information in this code of practice identifies Asbestos as a known carcinogen. The inhalation of asbestos fibres is known to cause mesothelioma, lung cancer and asbestosis. Malignant mesothelioma is a cancer of the outer covering of the lung (the pleura) or the abdominal cavity (the peritoneum) which is usually fatal. Mesothelioma is caused by the inhalation of needle-like asbestos fibres deep into the lungs where they can damage mesothelial cells, potentially resulting in cancer. The latency period is generally between 35 and 40 years, but it may be longer, and the disease is exceedingly difficult to detect prior to the onset of illness. Mesothelioma was once rare, but its incidence is increasing throughout the industrial world as a result of past exposures to asbestos. Australia has the highest incidence rate in the world. Lung cancer has been shown to be caused by all types of asbestos. The average latency period of the disease, from the first exposure to asbestos, ranges from 20 to 30 years. Lung cancer symptoms are rarely felt until the disease has developed to an advanced stage. Asbestosis is a form of lung disease (pneumoconiosis) directly caused by inhaling asbestos fibres, causing a scarring (fibrosis) of the lung tissue which decreases the ability of the lungs to transfer oxygen to the blood. The latency period of asbestosis is generally between 15 and 25 years. Asbestos poses a



risk to health by inhalation whenever asbestos fibres become airborne and people are exposed to these fibres. Accordingly, exposure should be prevented.

The *National Exposure Standard* (NES) TWA of *0.1 fibres/mL* should never be exceeded, and control measures should be reassessed whenever air monitoring indicates the 'control level' of 0.01 fibres/mL has been reached.

ACM can release asbestos fibres into the air whenever they are disturbed, especially during the following activities:

- any direct action on ACM, such as drilling, boring, cutting, filing, brushing, grinding, sanding, breaking, smashing or blowing with compressed air (State and Territory legislation prohibits most of these actions, and the relevant laws should be checked before performing any activity on ACM);
- the *inspection* or *removal* of ACM from workplaces (including vehicles, plant and equipment);
- the *maintenance* or *servicing* of materials from vehicles, plant, equipment or workplaces; and
- > the *refurbishment* or *demolition* of buildings containing ACM.

5.2 POLYCHLORINATED BIPHENYLS (PCBS)

Polychlorinated Biphenyls can enter the body via absorption through the skin, inhalation or oral ingestion. Skin contact and absorption can result in a severe and persistent rash. High exposure of PCB's may also cause damage to the nervous system resulting in weakness, numbness and tingling sensation in the limbs. They may also cause liver damage and have been linked to cancer (ANZECC, 1997). The airborne workplace exposure standard of PCB's is set at a TWA of **1 mg/m³** (*Safe Work Australia*, 2013).

PCB containing capacitors commonly found pre 1980's in fluorescent light fittings are unlikely to pose a health risk unless they are damaged or leak. If so it is advised to wear PPE and gloves resistant to PCB's (not latex or PVC) to reduce exposure (Safe Work Australia, 2016).

5.3 SYNTHETIC MINERAL FIBRES (SMF)

The health implications of Synthetic Mineral Fibres have been documented in the Code of Practice for the safe use of Synthetic Mineral Fibres (NOHSC:1990).

SMF's or Man Made Vitreous (Silicate) Fibres (MMVF) such as rock wool, glass fibre, slag wool and refractory ceramic fibres (RCF) are mostly classified as an irritant to the upper respiratory tract including nose, throat and parts of the lung. SMF's can also cause severe skin and eye irritation.

No form of SMF has been classified as a confirmed human carcinogen. RCF and high biopersistence MMVF are classified as Category 1B: Presumed to have carcinogenic potential to humans (SWNSW,2015).



The durability or Bio-persistence of fibres is an important factor in toxicity. New generation forms of SMF have a low bio-persistence. Old forms of SMF (pre early 1990's) and RCF special purpose glass fibres have a higher bio-persistence are considered to be more harmful to human health (AIOH, 2016).

All forms of SMF have an inhalable dust exposure standard of TWA 2mg/m³.

An additional exposure standard of TWA **0.5 fibres/mL** (respirable) applies to RCF, Special Purpose Glass Fibres and High Bio-persistence MMVF (SWA, 2013).

Since Jan 2000 (Glass Wool) and January 2002 (Rock Wool) all Australian manufactured insulation wool products have been classified as bio-soluble and are not classified as a hazardous material by Safework Australia (FARIMA, 2003).

5.4 HAZARDOUS PAINT

While painted systems remain intact, they present no significant health or environmental pollution hazard. However, through poor maintenance, removal, or disturbance of painted structures potential health and environmental pollution hazards associated with lead & hazardous metallic pigments will be encountered.

Lead in any form is toxic to humans when inhaled or ingested. Cumulative effects of repeated inhalation or ingestion of lead paint particles may result in lead poisoning or "Plumbism". A lower intake may detrimentally affect mental development in young children and therefore children and pregnant women are at higher risk (Australian Standard 4361.2, 2017).

Zinc Chromate (as Cr) is also toxic to humans when inhaled, ingested, or by dermal absorption. Health effects that may result from exposure include (SWA;2021):

- > Allergic dermatitis;
- > Irritation of the airways and asthma (inhalation, even below exposure standard);
- > Lesions (direct contact with the eye including through contact with aerosol mists)
- > Chrome ulcers (mainly on the hands and forearms from skin contact);
- Ulcers and a perforated septum (acute exposures to high levels);
- Chronic respiratory irritation including fluid on the lungs, inflammation, chronic bronchitis, pneumonia and emphysema; and
- ➤ Lung cancer.

Arsenic compounds have been shown to cause cancer in humans and are classified as Category 1A carcinogens (SWA;2020). Primary exposure route is via inhalation of airborne arsenic fumes and dusts. Inorganic arsenic exposure can result in several health effects, including:

- Nervous system Peripheral neuropathy;
- Dermatitis;
- Skin Ulcers;



- > Hyperpigmentation;
- Keratosis
- Skin cancer;
- Lung cancer
- Respiratory tract irritation;
- Circulatory System Peripheral vascular disease;
- Bone Marrow Pancytopaenia
- Ears Potential ototoxin; and
- Liver Hepatocellular damage.

Majority of Cadmium compounds have been classified as Category 1B carcinogens and are presumed to cause cancer in humans (SWA;2020). Primary exposure route to Cadmium is via inhalation. Potential health effects resulting from Cadmium exposure include:

- Respiratory tract irritation;
- Pneumonitis;
- Pulmonary oedema;
- Metal fume fever;
- Chronic obstructive airways disease;
- Proximal renal tubular dysfunction;
- > Proteinuria
- Osteoporosis; and
- Increased incidence of bone fractures.

5.5 HAZARDOUS CHEMICALS

Safe Work NSW (2019) condenses the immediate and long-term human health risks associated with hazardous chemicals into two types:

- Health Hazards Defined as properties of a chemical that cause adverse health effects. Exposure is through inhalation, ingestion, or skin contact. Health effects can be either short term (acute) or long term (chronic). Short term health effects include headaches, nausea, vomiting and skin corrosion whilst long term health effects include asthma, dermatitis, nerve damage or cancer. Examples include toxic chemicals, carcinogens and reproductive toxins.
- Physical hazards Defined as properties of a chemical that can cause immediate injury to people, such as burns, or damage to properties, eg fires. These hazards arise from the inappropriate handling, use or disposal of chemicals. Examples include corrosive, explosive, flammable, chemically-reactive and oxidising chemicals.



6.0 SURVEY RESULTS

The investigation comprised a building walk through of the accessible interior and exterior areas of the building. The results of the Hazmat Survey and a photographic record of Site conditions are presented in **Appendix A**. NATA accredited Certificates of Analysis are provided in **Appendix B**. Refer to **Table 2** for a comparison of heavy metal in paint results against the threshold criteria outlined in AS4361.1. Chemical Safety Data Sheets are to be attached by the Client in **Appendix C**.

In summary the survey identified the following forms of hazardous materials which will require management:

- Friable asbestos in building dust within Fire Tender Room (garage) (refer to Figure 1). Required to be remediated by a Class A licenced removal contractor supported by air monitoring and clearance certificate prior to any further building access or ongoing works;
- > Non-Friable (bonded) asbestos containing materials;
- ➢ PCB's;
- ➢ SMF; and
- > Hazardous Chemicals.

7.0 REMOVAL PROTOCOL

The following section outlines the recommended protocol for hazardous materials removal management. The recommendations, conclusions or stability of hazardous materials contained in this report shall not abrogate a person of their responsibility to work in accordance with Statutory Requirements, Codes of Practice, Guidelines, Material Safety Data Sheets, Work Instructions or reasonable work practices.

7.1 CLASSES OF ASBESTOS

Asbestos containing materials (ACM) are referred to as either friable or non-friable (bonded):

- Friable asbestos is in the form of a powder, or can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friable asbestos includes materials such as sprayed and thermal insulation, pipe lagging and millboard, and can release fibres with only minimal disturbance.
- Non-Friable asbestos products are ones in which the asbestos fibres are bound within the matrix of the material. Non-friable asbestos is difficult to damage or cause the release of fibres by hand and includes materials such as asbestos cement sheeting (fibre cement or fibro), vinyl floor tiles and zelemite electrical switchboards. However, non-friable asbestos containing materials that have been subjected to weathering, physical damage, water damage, fire or other conditions may contain exposed fibres which could be released upon disturbance.



7.2 ASBESTOS CONTROL MEASURES

7.2.1 Friable Asbestos

Friable ACM exhibits the greatest risk to human health as fibres are released upon minimal disturbance. As such removal and replacement would be the preferred option if such materials were found in accessible areas or air conditioning systems.

The selection of the most appropriate control measure should be determined from risk assessments and detailed knowledge of the workplace and activities. The following general principles may be applied:

- If the ACM is friable, in a poor/unstable condition and accessible with risk to health from exposure, immediate access restrictions should be applied, and removal is required as soon as practicable using a licensed removalist;
- If the ACM is friable and 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; and
- If the ACM is friable, in good condition and not accessible, a lower priority for removal and replacement should be given any such material. However, the removal of friable asbestos should be planned for the medium to long term and preferable in conjunction with planned minor or major building works.

7.2.2 Non- Friable Asbestos

Where the ACM situation has been identified to be bonded but in a poor/unstable condition and assessed as high risk, minimising disturbance and removal or encapsulation may be appropriate controls. For non-friable ACM's in a good and stable condition, ongoing maintenance and periodic inspection would be appropriate controls. Any remaining identified ACM's or presumptions should be appropriately labelled, where possible, and regularly inspected to ensure they are not deteriorating resulting in a potential risk to health. Prior to any demolition, partial demolition, renovation or refurbishment, asbestos containing materials likely to be disturbed by those works should be removed in accordance with the Code of Practice: How to Safely Remove Asbestos 2019. Further assessment of risk through airborne fibre monitoring can assist with decisions on the most appropriate, and urgency of, control measures.

7.3 ASBESTOS REMOVAL REQUIREMENTS

In the event the property owner/controller are required to or will remove asbestos containing materials as part of any building works the following must be complied with:

- All maintenance on, or removal of, asbestos is only to be undertaken by licensed removal contractors; and
- At no time are the property owner/controller personnel, or unlicensed maintenance personnel/contractors to undertake work that involves the disturbance of hazardous materials.



The following procedures outline the methods to be used by the asbestos removal contractors when removing asbestos products. These procedures are not intended for use for large scale asbestos removal. Specific procedures should be compiled for all large-scale asbestos removal:

7.3.1 Asbestos in Building Dust

The following procedure is to be followed for undertaking remediation of asbestos in building dust:

- Class A asbestos removal contractor must be engaged for any friable asbestos remediation or maintenance work;
- <u>Class A</u> licensed asbestos removal contractor to lodge notification with SafeWork NSW for permit to work at least five (5) days prior to commencement of site works;
- Mobilise and establish Site controls and decontamination area;
- Removal area to be enclosed an isolated from common air space. Plastic sheeting is to be erected over all external entry points to removal area, including windows, air conditioning units, doorways etc. Internal components within building, such as light fittings, air vents, holes in walls, cracks beneath doorways are to be sealed with tape to isolate space from remainder of building;
- Vacuum loose dust/debris with HEPA grade asbestos vacuum (H-Class) supported by visual inspection;
- Wet wipe hard surfaces and items;
- Move decontaminated items to specific holding area or cover with plastic pending clearance results;
- Seal / Paint the internal surfaces of the external asbestos 'shadow line' Fire Tender walls with durable sealant (Asbestos Sealer) in accordance with the CoP and must not disturb the surface.
- > Conduct surface validation sampling and clearance air monitoring; and
- Clearance Certificate (CC) required prior to the Site being accessed under non-asbestos controls.

7.3.2 Asbestos Cement Sheeting Material

The following procedure is to be followed for undertaking maintenance work in areas containing asbestos cement sheeting. It is only necessary to adopt this procedure for work that will disturb the asbestos cement sheet. Other work in the adjacent area which does not disturb the asbestos may be undertaken without special precautions.

- Plastic sheeting is to be placed on the floor of the area in which the work is to be undertaken;
- Barrier tape with appropriate signage is to be placed approximately 10m from the work area to prevent unauthorised access;



- All persons involved in the maintenance work are to wear disposable coveralls and approved respirator;
- If asbestos cement sheet must be disturbed, it is to be wetted to suppress any dust generated from the work. Approved vacuum cleaners are to be used during the work to collect dust generated by the work;
- At the completion of the work the area is to be thoroughly vacuumed and all plastic and disposable coveralls are to be sealed in plastic bags for disposal. Respirators are to be bagged for later cleaning and re-use;
- The area is to be inspected by the hygienist to ensure that all asbestos debris has been removed; and
- > A copy of clearance report is to be given to the building controller.

7.3.3 Non-friable Asbestos Products

The following procedure is to be followed for undertaking work in areas containing bonded asbestos materials (such as vinyl floor tiles, mastic, and electrical backing boards). It is only necessary to adopt this procedure for work that will disturb the above-mentioned asbestos materials. Work in adjacent areas that do not disturb the asbestos material may be undertaken without asbestos specific precautions:

- Where appropriate, plastic sheeting is to be placed on the floor of the area in which the work is to be undertaken;
- Barrier tape with appropriate signage is to be placed approximately 10m from the work area to prevent unauthorised access;
- All persons involved in the maintenance work are to wear disposable coveralls and approved respirator;
- All dust and debris generated during the work is to be collected and placed in plastic bags for disposal;
- At the completion of the work the area is to be vacuumed and wet wiped and all plastic and disposable coveralls are to be sealed in plastic bags for disposal. Respirators are to be bagged for later cleaning and reuse;
- The area is to be inspected by the hygienist to ensure that all asbestos debris has been removed; and
- > A copy of clearance report is to be given to the property controller.

7.4 SMF REMOVAL

Safe work Australia (formerly NOHSC) and Safe Work NSW Codes of Conduct state the following controls are to be practiced to minimise exposure to SMF's such as glass wool and rock wool:



- Install barriers and signage, workers not engaged in removal work should not be within 3m of work area;
- Class P1 and P2 respirators are adequate for nearly all aspects of SMF work. Clothing should be long sleeves & legs or disposable overalls. If clothing is not disposable it should be washed and separated from other laundry;
- > Damp down area before removal to reduce dust, especially with un-bonded insulation; and
- Place waste in plastic bags in plastic bags or containers which prevent dust emission and dispose in accordance to local waste disposal authorities.

7.5 POLYCHLORINATED BIPHENYLS (PCBS) REMOVAL

Safe Work NSW (2019) states the following controls are to be implemented to minimise contact with workers and the environment during the removal of PCBs:

- Equipment or parts containing PCBs must be placed in a polyethylene bag and placed into a marked sealable metal container;
- If PCBs cannot be removed immediately, sealed containers should be stored in a safe area which prevents the discharge of PCBs to the environment; and
- Appropriate PPE includes the use of any type of gloves that are made of materials resistant to PCBs, such as nitrile rubber, neoprene or polyethylene.

7.6 HAZARDOUS CHEMICAL REMOVAL

Prior to the removal of any hazardous chemicals, the Site's Hazardous Chemical register should be consulted to inform appropriate storage and handling techniques as well as mandatory PPE. Hazardous Chemicals should be removed and transported in accordance with the following Codes of Practice: Managing risks of hazardous chemicals in the workplace (SafeWork NSW; 2019); Demolition work (SafeWork NSW; 2019);and Australian Code for the Transport of Dangerous Goods by Road &Rail Edition 7.6 2018 (NTC; 2018).

8.0 MANAGEMENT OF IN-SITU HAZARDOUS MATERIALS

For the safe management of in-situ hazardous materials it is important to ensure hazardous materials are not disturbed or can deteriorate to such an extent that staff and users, external contractors or visitors are unnecessarily exposed to inhalable fibres.

8.1 **RE-INSPECTIONS**

Re-inspections of hazardous materials remaining on site are to be conducted by a competent person only. Such re-inspections will comprise a visual assessment of the condition of the materials to determine whether the material remains in a satisfactory



condition, or if deterioration has occurred since the previous inspection. Such reinspections will determine if any remedial action, such as encapsulation, isolation or removal, is required. Re-inspections will be performed on a regular basis (every 12 months for asbestos).

Normally, re-sampling of materials would not be required during re-inspections. If, however, previously unidentified or undocumented hazardous materials are encountered during the re-inspection process, sampling and analysis will need to be performed. The hazardous materials register, where necessary, will be updated and re-issued at the completion of the re-inspection work.

8.2 RECORD KEEPING

The property owner/controller shall maintain detailed records of all activities and work permits relating to hazardous materials works which have been undertaken on the premises. The records kept should include:

- > Copies of all hazardous materials survey reports, including updates and amendments;
- Copies of all 'permit to work' documents;
- Site induction records pertaining to the informing of contractors about the presence of hazardous materials on site, and that such contractors have been appropriately trained in safe work procedures and practices;
- Records pertaining to the informing of employees about the presence of hazardous materials on site, and that such employees have been appropriately trained in safe work procedures and practices;
- > Records of any hazardous materials abatement works performed on site;
- Clearance certificates indicating areas are safe to reoccupy after ACMs or hazardous paint abatement works;
- Air monitoring results;
- > Previous versions of the hazardous materials register; and
- All asbestos related records and documents are to be retained for 70 years after the removal of the ACM; after the building has been demolished; after the last action.

8.3 LABELLING AND SIGNAGE

The property owner/controller should implement a system of labelling throughout the premises, to clearly identify and provide warning of the presence of ACMs and principally asbestos containing materials.

ACMs labels must comply with Australian Standard AS1319 Safety Signs for the Occupational Environment. An example of the standard warning labels for asbestos is illustrated below:





The policy of the property owner/controller should be to install signage in areas that contain ACM including plant, equipment and components. These signs should be placed at all entrances to the work areas where asbestos is present. Additionally, to cover the following situations and conditions;

- Labels are to be placed on items of ACM identified or presumed and any ACM enclosed or inaccessible;
- > The positions and number of labels required should be determined by a competent person;
- > The labels are to be located and consistent with the locations in the ACM register; and
- Warning labels are to be in a location that will alert persons to not disturb the material without the correct training.

9.0 CONCLUSIONS & RECOMMENDATIONS

Based on the results of the Site inspection and NATA accredited laboratory analysis the following conclusions and recommendations are provided:

9.1 CONCLUSIONS

- This survey was limited to accessible areas of the above ground structures presented in Appendix A. Assessment of ground and soil conditions was not conducted as part of this survey;
- Non-friable Asbestos Containing Materials were identified by visual observation (VO) and NATA accredited laboratory analysis within the building. At the time of this assessment, the ACM was considered to be non-friable and in fair to good condition. The quantity of non-friable asbestos is estimated to comprise ~125 m² of bonded ACM. The reader is referred to Appendix A for a Site-specific register and Site Photographs;
- Friable Asbestos in building dust was identified through NATA accredited laboratory analysis within the Fire Tender Room (Garage). At the time of this assessment, the internal surfaces of the external corrugated asbestos 'shadow line' walls to the Fire Tender room were considered to be Friable. These surfaces were not painted and in a deteriorated state which had likely shed fibres into building dust. The external surfaces of the building are sealed with paint and were considered to be bonded. Garage Tender Room is estimated to contain ~45 m² of Friable Asbestos in Dust. The reader is referred to Appendix A for a Site-specific register and Site Photographs; and



- Asbestos Fibre Background Air Monitoring was conducted in the Meeting Hall and Outside the Garage Roller Door. Air monitoring results were reported below the lowest detectable limit of <0.01fb/mL.</p>
- Laboratory analysis of the two (2) paint samples reported results below the threshold criteria outlined in AS/NZS 4361.1:2017. No further action is required.
- Light fittings were visually observed at the site and were presumed to contain PCB's inside capacitors (ANZECC;1997). PCBs are to be managed in accordance with the Code of Practice: Demolition work (SafeWork NSW; 2019);
- SMF was identified in linoleum within the Kitchen and Hallway. SMF is to be managed in accordance with the Code of Practice: Demolition work (SafeWork NSW; 2019);
- Hazardous chemicals associated with commercial cleaning products and mechanic fluids, were observed in the Store room. Hazardous Chemicals should be removed and transported in accordance with the following Codes of Practice: Managing risks of hazardous chemicals in the workplace (SafeWork NSW; 2019); Demolition work (SafeWork NSW; 2019);and Australian Code for the Transport of Dangerous Goods by Road &Rail Edition 7.6 2018 (NTC; 2018).

9.2 **RECOMMENDATIONS**

- No entry is permitted to the Site without supervision of a Licenced Asbestos Assessor (LAA) or Class 'A' Asbestos removal contractor, due to the identification of friable-asbestos;
- Hazardous Materials controls must remain in-place until a clearance certificate (CC) is issued for the Site;
- > Asbestos warning signs must be affixed at each point of entry;
- The external building integrity of the Fire Tender Room should continue to be inspected to ensure no external openings;
- Friable Asbestos removal works must be conducted by a Class A Licensed asbestos removalist in accordance with Code of Practice – How to Safely Remove Asbestos (SafeWork NSW;2019);
- Non-friable Asbestos removal works at the Site must be conducted by a minimum Class B Licensed asbestos removalist in accordance with Code of Practice - How to Safely Remove Asbestos (SafeWork NSW;2019);
- Should any other materials of concern be uncovered during renovation or demolition works, the works should stop immediately and be managed in accordance with an Unexpected Finds Protocol (UFP). A suitably qualified environmental professional should be notified to re-assess the area; and
- Should any change in Site conditions or incident occur which causes a potential change in conditions, ENRS should be notified to further assess the site and consider requirements for any additional assessment or monitoring.



This report must be read in full in conjunction with the attached Statement of Limitations. Should the reader have any queries regarding this letter report, please do not hesitate to contact the author for further information or assistance.



10.0 REFERENCES

- AIOH (2016) Australian Institute of Occupational Hygienists, Synthetic Mineral Fibres (SMF) and Occupational Health Issues. May 2016.
- ANZECC (1997) Australian and New Zealand Environment and Conservation Council: Identification of PCB-Containing Capacitors.
- Australian Standard AS4361.2 (2017) Guide to hazardous paint management. Part 1. Lead and other hazardous pigments in industrial applications; and
- Australian Standard AS4361.2 (2017) Guide to hazardous paint management. Part 2. Lead Paint in residential, public and commercial buildings.
- enHEALTH (2005). Management of Asbestos in the Non-Occupational Environment
- FARIMA (2003) Industry Code of Practice for the Safe use of Glass Wool and Rock Wool Insulation. April 2003.
- NEPC (2013). National Environment Protection (Assessment of Site Contamination) Measure.
- NOHSC (1990) National Occupational Health and Safety Commission. National Code of Practice for the Safe Use of Synthetic Mineral Fibres.
- NSW EPA Guidelines for Asbestos and Fire-Damaged Buildings (EPA;2015).
- NSW Environmental Protection Authority (2014). Waste Classification Guidelines.
- NSW Government (2017). NSW Work Health and Safety Regulations.
- NSW Office of Environment and Heritage (OEH) (2011) Guidelines for Consultants Reporting on Contaminated sites. ISBN 0 7310 3892 4.
- SafeWork NSW (2019). How to Manage and Control Asbestos in the Workplace Code of Practice.
- SafeWork NSW (2019). How to Safely Remove Asbestos Code of Practice.
- Safe Work NSW (2015) Safe management of synthetic mineral standards (SMF) glasswool and rockwool.
- SafeWork Australia (2019) Workplace Exposure Standards for Airborne contaminants.

SafeWork NSW (2019). Code of Practice- Demolition Work.

W.A. Government (2009). Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, May 2009.



11.0 LIMITATIONS

This report and the associated services performed by ENRS are in accordance with the scope of services set out in the contract between ENRS and the Client. The scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to the site.

ENRS derived the data in this report primarily from visual inspections, and, limited sample collection and analysis made on the dates indicated. In preparing this report, ENRS has relied upon, and presumed accurate, certain information provided by government authorities, the Client and others identified herein. The report has been prepared on the basis that while ENRS believes all the information in it is deemed reliable and accurate at the time of preparing the report, it does not warrant its accuracy or completeness and to the full extent allowed by law excludes liability in contract, tort or otherwise, for any loss or damage sustained by the Client arising from or in connection with the supply or use of the whole or any part of the information in the report through any cause whatsoever.

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

In practice, it is generally impossible to locate all asbestos in the course of an inspection due to factors including but not limited to access restrictions to certain areas including subsoil, the need to avoid damage, minimising inconvenience, operating plant, unavailability of specific information regarding the premises. The presence of asbestos and asbestos containing materials (ACM) is determined visually while the surveyor will collect samples of suspected ACM and have them analysed in a laboratory. Any restrictions on the amount of sampling will reduce confidence in the inspection findings. The ACM that cannot be seen will not be found.

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

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the provisions of the agreement between ENRS and the Client. ENRS accepts no liability or responsibility whatsoever and expressly disclaims any responsibility for or in respect of any use of or reliance upon this report by any third party or parties.

It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable and timely manner.

FIGURES



TABLES

		C					TABLE	2: Resul	ts - Hyam	s Beach F	RFS Paint	Results			
	Thre	eshold Cri (AS4361.2	teria !)					Sam	ple ID						
ENVIRONMENT & NATURA	AL RESOURCE	SOLUTIONS	Total N	Aass of Pa	aint (kg)										
ANALYTE	Units	Laboratory	>250	<u>50-250</u>	<50	Hall Cream paint	External Timber Brown Paint								
Arsenic	%w/w	0.0005%	0.05%	0.1%	0.25%	<0.05	<0.05	-	-	-	-	-	-	-	-
Cadmium	%w/w	0.0005%	0.05%	0.1%	0.25%	<0.05	<0.05	-	-	-	-	-	-	-	-
Chromium	%w/w	0.0005%	0.05%	0.1%	0.25%	<0.05	<0.05	-	-	-	-	-	-	-	-
Lead	%w/w	0.00001%	0.1%	0.25%	1.0%	<0.005	0.020	-	-	-	-	-	-	-	-
Where 1.0% = 10,000 m	ng/kg														

APPENDICES

Appendix A

Hazardous Materials Survey



PROJECT I	NUMBER: EN	RS1872	DATE: 14/05/2021	SURVEYOR: N	ſΚ			
SITE LOCA	TION: Hy	ams Beach	RFS – Rose St, Hyams Beach NSW	REVIEWED BY: T	В			
Category.	Sample Description	Result	Location	Material Description		Photo ID	Quantity (m, m ² , m ³)	Action Required
Asbestos	Previous Lab Report (Greencap 2016 in Appendix D)	Positive	Main Building External Walls	Asbestos Shadow Line Cladding		1	<100m 2	External surface of material in good condition - sealed with paint. No action required. Internal surfaces of material within garage are shedding fibres - Refer to Samples S2 and S3 below.
Asbestos	As above.	Positive	Main Building External Eaves	Asbestos Fibre Cement Sheeting		2	~25m2	Material intact. Removal by Class B Asbestos Removal Contractor at earliest convenience.
Asbestos	As above.	Negative	Rear Addition (Kitchen, Patio and Toilets) External Eaves	Fibre Cement Sheeting		3	-	No Action Required.
Asbestos	As above.	Negative	Rear Addition, Hallway Ceiling	Fibre Cement Sheeting		4	-	No Action Required.
Asbestos	As above.	Negative	Rear Addition, Hallway Southern and Western Walls - Northern and Eastern Walls Presumed Same	Fibre Cement Sheeting		4	-	No Action Required.
Asbestos	As above.	Negative	Rear Addition, Toilet Eastern and Western Internal Walls - Ceiling, northern and southern walls presumed same.	Fibre Cement Sheeting		NA	-	No Action Required.
Asbestos	As above.	Negative	Rear Addition, Disable Toilet Western Internal Walls - Ceiling, northern and southern walls presumed same.	Fibre Cement Sheeting		NA	-	No Action Required.
Asbestos and SMF	S1	Negative (asb) SMF (pos)	Rear Addition, Kitchen Floor and Hallway Floor	Linoleum (Lino)		5	-	No Immediate Action Required. Manage in Accordance with COP: Demolition Work (2019) when removing.
Table Abl (Pb); Poly	breviations: Visu	al Observati I (PCB), Not	on (VO); Chrysotile (CH); Amosite (AM); Croc Assessable (NA), Presumed Asbestos (PA),	idolite (CR); No Asbestos Detected (NAI Presumed No Asbestos (PNA), Negative	D), Synthetic N e Paint Field Te	1ineral est (N	l Fibre(PFT), N	SMF); Lead Paint ot Detected (ND)



PROJECT N	NUMBER:	ENRS1872	DATE: 14/05/2021	SURVEYOR:	MK			
SITE LOCA	TION:	Iyams Beach	RFS – Rose St, Hyams Beach NSW	REVIEWED BY:	ТВ			
Category.	Sample Description	Result	Location	Material Descriptio	n	Photo ID	Quantity (m, m ² , m ³)	Action Required
Asbestos	S2	СН	Main Building, Fire Tender (Garage), South Timber Frameworks	Asbestos in Dust		6	~45 m²	Friable Asbestos detected in dust swabs within garage. Internal side of external corrugated ACM sheets not painted and are shedding fibres. Access to Site is restricted to LAA and Class A Asbestos Removal Contractor. Garage requires remediation by Class A Asbestos Removal Contractor. Background Air Monitoring conducted outside and within Meeting Room of Site reported results below DETECT <0.01fb/mL.
Asbestos	S3	СН	Main Building, Fire Tender (Garage), West Timber Frameworks	Asbestos in Dust		7	~45 m²	As above.
Asbestos	S4 and S5	Negative	Rear Addition, Disable Toilet External Northern and Southern Wall	Fibre Cement Sheeting		8	-	No Action Required.
Asbestos	S6	Negative	Rear Addition, Store Room External Southern Wall	Fibre Cement Sheeting		12	-	No Action Required.
Asbestos	VO	Positive	Main Building, Fire Tender, Electrical Distribution Board	Fibre Cement Sheeting		9	~1m²	Re-inspect in 1 year. Recommend replacing by Class B Asbestos Removal Contractor ASAP.
Heavy Metals in Paint	Hall Cream Pair	nt Negative	Main Building, Cream Paint Internal Meeting Room Walls	Cream Paint		10	-	No Action Required.
Heavy Metals in Paint	External Browr Paint	^N Negative	Main Building, External fascia and door frames	Brown Paint		11	-	No Action Required.
РСВ	vo	Presumed Positive	Main Building, Fire tender and Meeting Room Ceilings	Light fittings and Fluorescent Lights.		12		No Action Required. Manage in Accordance with COP: Demolition Work (2019) when removing.
Table Abb (Pb); Polye	breviations: V carbonate Biphe	isual Observati nyl (PCB), Not	on (VO); Chrysotile (CH); Amosite (AM); Croci Assessable (NA), Presumed Asbestos (PA),	dolite (CR); No Asbestos Detected (I Presumed No Asbestos (PNA), Nega	NAD), Synthetic ative Paint Field	Minera Test (N	I Fibre IPFT), I	(SMF); Lead Paint Not Detected (ND)



PROJECT N	NUMBER: E	NRS1872	DATE: 14/05/2021	SURVEYOR: MK			
SITE LOCA	TION: H	yams Beach	n RFS – Rose St, Hyams Beach NSW	REVIEWED BY: TB			
Category.	Sample Description	Result	Location	Material Description	Photo ID	Quantity (m, m ² , m ³)	Action Required
Asbestos	S7	Negative	Main Building, Meeting Room.	Asbestos in Dust	-	-	No Action Required. Asbestos in dust not detected in swab sample collected from this area. Access to Site is restricted until the Fire Tender room is remediated.
Asbestos	S8	Negative	Rear Addition, Kitchen.	Asbestos in Dust	-	-	As above.
Asbestos	S9	Negative	Rear Addition, Hallway.	Asbestos in Dust	-	-	As above.
Hazardous Chemicals	NA referred to labels	vo	Main Building, Store.	Various cleaning products, mechanic fluids etc. Refer to Safety Data Sheets in Appendix C (to be attached by Client).	12	-	Manage in accordance with the following Codes of Practice: Managing risks of hazardous chemicals in the workplace (SafeWork NSW; 2019); Demolition work (SafeWork NSW; 2019);and Australian Code for the Transport of Dangerous Goods by Road &Rail Edition 7.6 2018
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
Table Abb (Pb); Polyc	breviations: Vis	ual Observation	on (VO); Chrysotile (CH); Amosite (AM); Croot Assessable (NA), Presumed Asbestos (PA)	cidolite (CR); No Asbestos Detected (NAD), Synthetic Presumed No Asbestos (PNA), Negative Paint Field	Mineral Test (N	Fibre PFT), I	(SMF); Lead Paint Not Detected (ND)



ABN 68 600 154 596 108 Jerry Bailey Road SHOALHAVEN HEADS NSW 2535 T/F 02 9037 4708 M 0401 518 443





ABN 68 600 154 596 108 Jerry Bailey Road SHOALHAVEN HEADS NSW 2535 T/F 02 9037 4708 M 0401 518 443



Appendix B

NATA Accredited Laboratory Certificates of Analysis (COA)

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET93355 / 96535 / 1 - 6 Your ref : ENRS1872 - Hyams Beach RFS NATA Accreditation No: 14484

17 May 2021

Environment & Natural Resource Solutions 108 Jerry Bailey Road Shoalhaven Heads NSW 2535

Attn: Mr Rohan Last

Accredited for compliance with ISO/IEC 17025 - Testing.

Dear Rohan

Asbestos Identification

This report presents the results of six samples, forwarded by Environment & Natural Resource Solutions on 17 May 2021, for analysis for asbestos.

1.Introduction:Six samples forwarded were examined and analysed for the presence of asbestos.

2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method (Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).

 3. Results : Sample No. 1. ASET93355 / 96535 / 1. ENRS1872 - S1 – Kitchen Lino. Approx dimensions 14.0 cm x 13.0 cm x 0.2 cm The sample consisted of a fragment of a linoleum floor covering material containing synthetic mineral fibres. No asbestos detected.

> Sample No. 2. ASET93355 / 96535 / 2. ENRS1872 - S2 – Garage South Timber. Approx dimensions 10.0 cm x 10.0 cm x 0.1 cm The sample consisted of a mixture of dust particles, organic fibres, sand, fragments of wood chips, corroded metal, fibro plaster# (Approx. estimated dimension = 2.0mm x 1.0mm x 1.0mm), char, plant and animal matter. Chrysotile# asbestos detected.

> Sample No. 3. ASET93355 / 96535 / 3. ENRS1872 - S3 – Garage West Timber. Approx dimensions 10.0 cm x 10.0 cm x 0.1 cm The sample consisted of a mixture of dust particles, organic fibres, sand, fragments of wood chips, paint flakes, fibro plaster# (Approx. estimated dimension = 2.0mm x 1.0mm x 1.0mm), char, plant and animal matter. Chrysotile# asbestos detected.

> Sample No. 4. ASET93355 / 96535 / 4. ENRS1872 - S4 – Toilet South Wall. Approx dimensions 1.5 cm x 1.0 cm x 0.45 cm The sample consisted of a fragment of a fibro plaster cement material containing organic fibres. No asbestos detected.

SUITE 710 / 90 GEORGE STREET, HORNSBY NSW 2077 – P.O. BOX 1644 HORNSBY WESTFIELD NSW 1635 PHONE: (02) 99872183 FAX: (02)99872151 EMAIL: info@ausset.com.au WEBSITE: www.Ausset.com.au







Sample No. 5. ASET93355 / 96535 / 5. ENRS1872 - S5 – Toilet North Wall. Approx dimensions 3.0 cm x 2.0 cm x 0.4 cm The sample consisted of fragments of a fibro plaster cement material containing organic fibres and fragments of a cork like material. No asbestos detected.

Sample No. 6. ASET93355 / 96535 / 6. ENRS1872 - S6 – Store South Wall. Approx dimensions 1.0 cm x 1.0 cm x 0.45 cm

The sample consisted of a fragment of a fibro plaster cement material containing organic fibres.

No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg) Occupational Hygienist / Approved Identifier. Approved Signatory



Accredited for compliance with ISO/IEC 17025 - Testing.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating "No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

Estimation of asbestos weights involves the use of following assumptions;

Volume of each kind of Asbestos present in broken edges have been visually estimated and it has been assumed that volumes remain similar throughout the binding matrix and those volumes are only approximate and not exact. Material densities have been assumed to be similar to commonly found similar materials and may not be exact.

The approx weights given above can be used only as a guide. They do not represent absolute weights of each kind of asbestos, as it is impossible to extract all loose fibres from soil and other asbestos containing building material samples using this method. However above figures may be used as closest approximations to the exact values in each case. Estimation and/ or reporting of asbestos fibre weights in asbestos containing materials and soil is out of the Scope of the NATA Accreditation. NATA Accreditation only covers the qualitative part of the results reported. This weight disclaimer also covers weight / weight percentages given.

^ denotes loose fibres of relevant asbestos types detected in soil/dust.

* denotes asbestos detected in ACM in bonded form.

denotes friable asbestos as soft fibro plaster and/or highly weathered ACM that will easily crumble.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref : ASET93469 / 96649 / 1 - 3 Your ref : ENRS1872 - Hyams Beach RFS NATA Accreditation No: 14484

20 May 2021

Environment & Natural Resource Solutions 108 Jerry Bailey Road Shoalhaven Heads NSW 2535

Attn: Mr Rohan Last

Dear Rohan

Asbestos Identification

This report presents the results of three samples, forwarded by Environment & Natural Resource Solutions on 20 May 2021, for analysis for asbestos.

1.Introduction: Three samples forwarded were examined and analysed for the presence of asbestos.

- 2. Methods : The samples were examined under a Stereo Microscope and selected fibres were analysed by Polarized Light Microscopy in conjunction with Dispersion Staining method (Australian Standard AS 4964 - 2004 and Safer Environment Method 1 as the supplementary work instruction) (Qualitative Analysis only).
- 3. Results : Sample No. 1. ASET93469 / 96649 / 1. ENRS1872 S7 Meeting Room. Approx dimensions 40.0 cm x 5.0 cm x 0.15 cm The sample consisted of a mixture of dust particles, organic fibres, sand, fragments of plaster, wood chips, paint flakes, plant and animal matter. No asbestos detected.

Sample No. 2. ASET93469 / 96649 / 2. ENRS1872 - S8 - Kitchen. Approx dimensions 44.0 cm x 5.0 cm x 0.15 cm The sample consisted of a mixture of dust particles, organic fibres, sand, fragments of plaster, wood chips, plant and animal matter. No asbestos detected.

Sample No. 3. ASET93469 / 96649 / 3. ENRS1872 - S9 - Hallway. Approx dimensions 45.0 cm x 5.0 cm x 0.15 cm The sample consisted of a mixture of dust particles, organic fibres, sand, fragments of plaster, wood chips, plant and animal matter. No asbestos detected.

Reported by,

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg) Occupational Hygienist / Approved Identifier. Approved Signatory



Accredited for compliance with ISO/IEC 17025 - Testing.

The results contained in this report relate only to the sample/s submitted for testing. Australian Safer Environment & Technology accepts no responsibility for whether or not the submitted sample/s is/are representative. Results indicating

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"No asbestos detected" indicates a reporting limit specified in AS4964 -2004 which is 0.1g/ Kg (0.01%). Any amounts detected at assumed lower level than that would be reported, however those assumed lower levels may be treated as "No asbestos detected" as specified and recommended by A4964-2004. Trace / respirable level asbestos will be reported only when detected and trace analysis have been performed on each sample as required by AS4964-2004. When loose asbestos fibres/ fibre bundles are detected and reported that means they are larger handpicked fibres/ fibre bundles, and they do not represent respirable fibres. Dust/soil samples are always subjected to trace analysis except where the amounts involved are extremely minute and trace analysis is not possible to be carried out. When trace analysis is not performed on dust samples it will be indicated in the report that trace analysis has not been carried out due to the volume of the sample being extremely minute.

AUSTRALIAN SAFER ENVIRONMENT & TECHNOLOGY PTY LTD

ABN 36 088 095 112

Our ref: ASET93460 / 96640 / 1 - 3 Your ref: ENRS1872 – Hyams Beach RFS NATA Accreditation No: 14484.

20 May 2021

Environment & Natural Resource Solutions 108 Jerry Bailey Road Shoalhaven Heads NSW 2535

Attn: Mr Rohan Last

Air Monitoring for Airborne Asbestos

1. Introduction:

This report presents the results of three control air monitoring samples forwarded by Environment & Natural Resource Solutions on 20 May 2021 for analysis for airborne asbestos.

2. Methods:

In accordance with the Work-safe Australia Guidance Notes on Membrane Filter Method on estimating air borne asbestos fibres – Second Edition – NOHSC – 3003 (2005) and **Safer Environment Method 2** as supplementary work instructions.

3. Results:	
Location	<u>Fibres/ 100 Fields</u>
18/05/2021	
1- ASET93460 / 96640 / 1 – East	0.0 / 100
2- ASET93460 / 96640 / 2 – Meeting Hall	3.0 / 100
3- ASET93460 / 96640 / 3 – Blank	0.0 / 100

Analysed and Reported by

Mahen De Silva. BSc, MSc, Grad Dip (Occ Hyg) Occupational Hygienist / Approved Counter Approved Signatory



Accredited for compliance with ISO/IEC 17025 - Testing.

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CERTIFICATE OF ANALYSIS 269162

Client Details	
Client	ENRS
Attention	Lab Results
Address	25 River Rd, Shoalhaven Heads, NSW, 2535

Sample Details	
Your Reference	ENRS1872, Hyams Beach
Number of Samples	2 paint
Date samples received	17/05/2021
Date completed instructions received	17/05/2021

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	21/05/2021		
Date of Issue	21/05/2021		
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<u>Results Approved By</u> Hannah Nguyen, Senior Chemist Authorised By

Nancy Zhang, Laboratory Manager



Metals in Paint			
Our Reference		269162-1	269162-2
Your Reference	UNITS	Hall Cream Paint	External Brown Paint
Date Sampled		14/05/2021	14/05/2021
Type of sample		paint	paint
Date prepared	-	21/05/2021	21/05/2021
Date analysed	-	21/05/2021	21/05/2021
Arsenic in Paint	% w/w	<0.05	<0.05
Cadmium in Paint	%w/w	<0.05	<0.05
Chromium in paint	%w/w	<0.05	<0.05
Lead in paint	%w/w	<0.005	0.02

Method ID	Methodology Summary
Metals-020/021/022	Digestion of Paint chips/scrapings/liquids for Metals determination by ICP-AES/MS and or CV/AAS.

QUALITY	Y CONTROL	: Metals	in Paint			Du	plicate		Spike Re	covery %
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			21/05/2021	[NT]		[NT]	[NT]	21/05/2021	
Date analysed	-			21/05/2021	[NT]		[NT]	[NT]	21/05/2021	
Arsenic in Paint	% w/w	0.05	Metals-020/021/022	<0.05	[NT]		[NT]	[NT]	103	
Cadmium in Paint	%w/w	0.05	Metals-020/021/022	<0.05	[NT]		[NT]	[NT]	104	
Chromium in paint	%w/w	0.05	Metals-020/021/022	<0.05	[NT]		[NT]	[NT]	101	
Lead in paint	%w/w	0.005	Metals-020/021/022	<0.005	[NT]	[NT]	[NT]	[NT]	97	[NT]

Result Definiti	ons
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.

The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

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 (not SPOCAS); 60-140% for organics/SPOCAS (+/-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.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Appendix C

Hyams Beach RFS Safety Data Sheets (SDS) TO BE APPENDED BY SCC

Appendix D

Previous Reports – 2016 NATA Accredited Laboratory Certificates of Analysis (COA) TO BE APPENDED BY SCC