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**EMM Consulting Pty Ltd**
**Ground Floor**
**20 Chandos Street**
**St Leonards NSW 2065**

Project 99510.01
2 December 2022
R.006.Rev0
TK / PG:jl

Attention: Anthony Davis

Email: adavis@emmconsulting.com.au

Dear Anthony

**Asbestos Assessment**
**Police Citizens Youth Club (PCYC), 600-660 Elizabeth Street, Redfern NSW**

## 1. Introduction and Scope

Douglas Partners Pty Ltd (DP) was engaged by EMM Consulting Pty Ltd (EMM) to conduct a further asbestos assessment at the Police Citizens Youth Club (PCYC) at 600-660 Elizabeth Street, Redfern NSW (the Site). This follows DP's:

- *Report on Hazardous Building Materials (HBM) Survey, Police Citizens Youth Club (PCYC), 600-660 Elizabeth Street, Redfern NSW*, 18 December 2019 (ref. 9951.01.R.001.Rev0) (DP, 2019);
- *Asbestos Assessment Police Citizens Youth Club (PCYC), 600-660 Elizabeth Street, Redfern NSW*, 14 April 2020 (ref. 99510.01.R.002.Rev0) (DP, 2020a);
- *Asbestos Assessment Police Citizens Youth Club (PCYC), 600-660 Elizabeth Street, Redfern NSW*, 26 October 2020 (ref. 99510.01.R.003.Rev0) (DP, 2020b);
- *Asbestos Assessment Police Citizens Youth Club (PCYC), 600-660 Elizabeth Street, Redfern NSW*, 15 October 2021 (ref. 99510.01.R.004.Rev0) (DP, 2021); and
- *Asbestos Assessment Police Citizens Youth Club (PCYC), 600-660 Elizabeth Street, Redfern NSW*, 10 May 2022 (ref. 99510.01.R.005.Rev0) (DP, 2022).

This assessment comprised:

- Further evaluation of background airborne asbestos fibre concentrations in interior occupied areas and safely accessible roof cavities; and
- Re-inspection of the condition of the blue vinyl floor tiles (2 occurrences) identified in DP (2019, 2020a, b, 2021 and 2022).

This report outlines the results of the assessment and provides general recommendations.

## 2. Site Description

The PCYC is located on a property at the eastern side of Elizabeth Street at its intersection with Phillip Street in Redfern NSW. The southern section of the property (approx. 4,000 $m^2$) generally comprises a single storey brick building (i.e., PCYC) with car park, sports court and covered playground area. A foundation stone at the western side of the building indicates construction of the main building in 1952. A building layout plan sourced from the PCYC, and including some room nomenclature added by DP, is provided in Attachment A.

## 3. Method

Airborne asbestos monitoring was conducted in accordance with the NOHSC *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC:3003(2005)]. Monitoring was conducted on three mutually agreed days. EMM were responsible for ensuring that conditions on these days reflected normal operating conditions and not less than and normal occupancy levels. All samples were analysed by a National Association of Testing Authorities (NATA) accredited laboratory that is accredited for the relevant test method.

Unaided visual inspection of the blue vinyl floor tiles was undertaken by a Licensed Asbestos Assessor (LAA).

Selected photographs taken during the assessment are provided in Attachment B.

## 4. Results

### 4.1 General

Several rooms located at the northern end of the PCYC building were occupied by childcare services during this assessment. These rooms included the Dance Studio, Storage 2, Computer Room and Martial Arts. Air monitoring was not conducted in these areas due to the sensitive nature of occupation.

### 4.2 Air Monitoring

The laboratory certificates of analysis for the air monitoring are provided in Attachment C. All air monitoring results were <0.01 f/mL and below the reporting limit of the method used. These results are considered acceptable for Work Health and Safety (WHS) purposes.

### 4.3 Vinyl Tile Inspection

The results of the vinyl tile inspection, including an asbestos risk assessment, are summarised in Attachment D. No appreciable change in the general condition of the vinyl floor tiles, or their overall asbestos risk rating (i.e., a risk rating of "Low"), was identified when compared to DP (2019), DP (2020a, b), DP (2021) and DP (2022).

The vinyl floor tiles in Storage 7 were covered by carpet at the time of inspection (refer photograph 1 and 2 in Attachment B). Therefore, the inspection comprised peeling back the carpet in several areas to enable assessment and not all areas of vinyl floor tile could be accessed.

The floor area of Stationary Store was loosely covered by foam matting and access was also limited by stored gym equipment at the time of the inspection (refer photograph 3 and 4 in Attachment B). Therefore, inspection was conducted around and below the matting in several locations and not all areas of vinyl floor tile could be accessed.

## 5. Recommendations

### 5.1 General

Reference should be made to previous DP reports (refer Section 1) for additional general information regarding the identification and management of HBM, including asbestos containing material (ACM), at the site. Note, however, that regulatory and other requirements may change from time-to-time and that this may warrant revision of the abovementioned DP reports.

HBM should be managed in accordance with the requirements of the NSW WHS Act and Regulation and subordinate Codes of Practice, Australian Standards and guidelines.

A HBM management plan should be developed to aid compliance with the requirements of the NSW WHS Act and Regulation.

HBM should be visually inspected on a regular basis. Any change to the condition of the material or relevant site conditions should be reported.

HBM should be removed prior to any significant disturbance such as maintenance, refurbishment and demolition work.

Prior to any work involving HBM a risk assessment should be conducted, and Safe Work Method Statement (SWMS) developed. The SWMS should outline the controls necessary to ensure that the risks of exposure and environmental contamination are adequately controlled.

HBM remediation and removal work should be undertaken in controlled conditions.

Waste should be assessed and classified for disposal in accordance with the NSW Protection of the Environment Operations (POEO) Act, Regulation(s) and the NSW Environment Protection Authority (EPA) *Waste Classification Guidelines, Part 1: Classifying Waste*, November 2014 (EPA, 2014).

## 5.2 Asbestos

Asbestos and ACM must be managed in accordance the NSW WHS Regulation, the SafeWork NSW *Code of Practice: How to Manage and Control Asbestos in the Workplace* and the SafeWork NSW *Code of Practice: How to Safely Remove Asbestos.*

Exposure to airborne asbestos in the workplace must be eliminated to the extent that is reasonably practicable. If it is not reasonably practicable to eliminate exposure it must be minimised to the extent that is reasonably practicable.

An Asbestos Management Plan must be developed to enable compliance with the WHS Regulation (Clause 429).

The presence and location of asbestos or ACM identified at a workplace must be clearly indicated by a label if it is reasonably practicable to do so.

Warning labels and signs should be consistent with the examples provided in the SafeWork NSW *Code of Practice: How to Manage and Control Asbestos in the Workplace* and comply with AS1319 *Safety Signs for the Occupational Environment*.

Non-friable ACM that are structurally intact and in good to fair condition may typically remain in place provided that they are not significantly disturbed.

Tools and equipment that generate dust must generally not be used on asbestos or ACM. These include high-speed abrasive power and pneumatic tools (e.g., angle grinders, sanders, saws and high-speed drills, brooms and brushes).

Tools and equipment that cause the release of asbestos, including power tools and brooms, may only be used on asbestos if the equipment is enclosed and / or designed to capture or suppress asbestos fibres and / or the equipment is used in a way that is designed to capture or suppress asbestos fibres safely. In such a case, other controls including Personal Protective Equipment (PPE) may also be required based upon the results of a pre-work risk assessment and the SWMS adopted.

The use of high-pressure water spray and compressed air on asbestos or ACM is specifically prohibited under the WHS Regulation.

If ACM become damaged, they should be repaired or removed and replaced with an alternative, non-asbestos building product as soon as possible.

The scope of asbestos removal work should be outlined in a technical specification (i.e., Scope of Work Report) developed by a Competent Person (in the case of non-friable asbestos) or a LAA (in the case of friable asbestos).

Removal of friable asbestos must only be undertaken by a Class A licensed asbestos removalist.

Removal of 10 $m^2$ or more of non-friable asbestos must only be undertaken by a Class A or Class B licensed asbestos removalist.

Air monitoring, including background, control and clearance monitoring, is a mandatory requirement during removal of friable asbestos. Air monitoring should also be considered during removal of non-friable asbestos particularly where sensitive receptors exist such as at schools, hospitals, in public areas and at similar sites.

Air monitoring must be undertaken in accordance with the National Occupational Health and Safety Commission (NOHSC) *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres, 2nd Edition* [NOHSC:3003(2005)].

All air monitoring samples must be analysed by a NATA accredited laboratory that holds accreditation for the required analysis.

At the completion of asbestos removal, a clearance inspection must be conducted by a Competent Person (for non-friable asbestos removal) or a Licensed Asbestos Assessor (for friable asbestos removal).

Air monitoring and clearance inspections must be performed by person/s independent of the licensed asbestos removalist.

All waste should be classified for disposal in accordance with relevant legislation and EPA (2014). Asbestos waste is preclassified as Special Waste under these guidelines.

Asbestos transporters and facilities receiving asbestos waste must report the movement of asbestos waste to the EPA. Entities involved with the transport or disposal of asbestos waste in NSW, or arranging the transport of asbestos waste in NSW, must use the EPA's online tool, WasteLocate.

All asbestos waste must be disposed at a waste collection facility licensed to receive asbestos waste. All disposal receipts should be retained.

A person who relinquishes management or control of the workplace must ensure that the Asbestos Register is given to the person, if any, assuming management or control of the workplace.

## 6. Limitations

This report is provided for the exclusive use of EMM for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the conditions on the site only at the specific locations inspected, sampled and/or monitored and at the time of assessment. While the air monitoring method is considered acceptable for WHS purposes it is not sufficiently sensitive to confirm that "normal" background asbestos concentrations are present.

While work is undertaken in a professional manner the nature of the contaminant and limitations of the method(s) used mean that we cannot guarantee that all HBM or issues of concern have been identified.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in conditions across the site between and beyond the inspection, sampling and/or monitoring locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

DP and our personnel are not licenced quantity surveyors. Any quantities included in this report are provided as a general guide only and should not be relied upon. The services of a licenced quantity surveyor should be engaged if reliable quantities are required.

The assessment of atypical safety hazards arising from this advice is restricted to the environmental components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

Should there be any discrepancy between the recommendations made in this report and the requirements of relevant any legislation, codes of practice, standards and/or guidelines then the more stringent requirement that is protective of health and safety shall apply.

## 7. Closure

We trust that the foregoing is of assistance. Please contact the undersigned if you have any questions on this matter.

Yours faithfully
**Douglas Partners Pty Ltd**

**Tim Kulmar**
Senior Occupational Hygienist
Licenced Asbestos Assessor (LAA001015)

Reviewed by

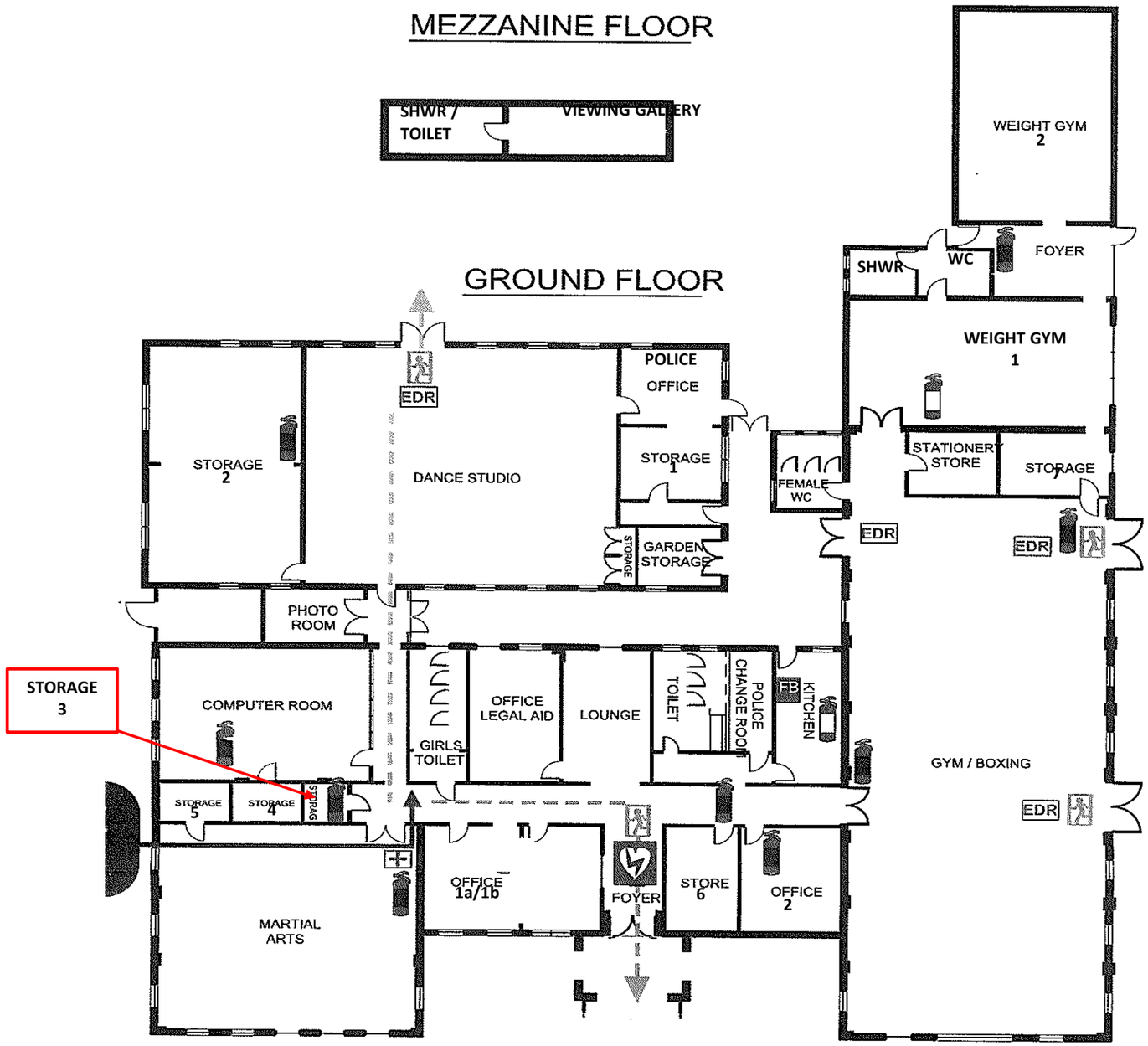
p.p.

**Paul Gorman**
Principal

Attachments:
Attachment A - Building Plan
Attachment B - Photographs
Attachment C - Laboratory Certificates of Analysis (Air Monitoring)
Attachment D - Vinyl Tile Inspection Results

# Attachment A

Building Plans




| | | | | | |
|---|---|---|---|---|---|
| Douglas Partners<br>Geotechnics / Environment / Groundwater | CLIENT: EMM Consulting Pty Ltd | | TITLE: **Hazardous Building Materials (HBM) Register** | PROJECT No: | 99510.01 |
| | OFFICE: Sydney | DRAWN BY: SM | **Police Citizens Youth Club (PCYC)** | DRAWING No: | 1 |
| | SCALE: Not to scale | DATE: 5/5/2022 | **600-660 Elizabeth Street, Redfern NSW** | REVISION: | A |

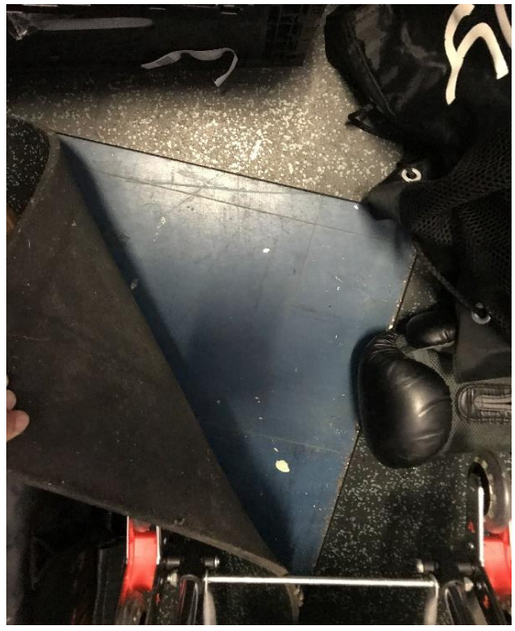
# Attachment B

Photographs

Photograph 1: PCYC, interior, storage 7, floor - blue vinyl floor tiles below carpet.

Photograph 2: PCYC, interior, storage 7, floor - blue vinyl floor tiles below carpet.

| | | |
|---|---|---|
| Douglas Partners<br>Geotechnics / Environment / Groundwater | **Site Photographs**<br>**Asbestos Assessment**<br>**600-660 Elizabeth Street, Redfern NSW** | PROJECT: 99510.01<br>PLATE No: 1<br>REV: A |
| | CLIENT: EMM Consulting Pty Ltd | DATE: Nov 2022 |



Photograph 3: PCYC, interior, stationary store, floor, below matting - blue vinyl floor tiles.

Photograph 4: PCYC, interior, stationary store, floor, below matting - blue vinyl floor tiles.

| | | |
|---|---|---|
| Douglas Partners<br>Geotechnics / Environment / Groundwater | **Site Photographs**<br>**Asbestos Assessment**<br>**600-660 Elizabeth Street, Redfern NSW** | PROJECT: 99510.01<br>PLATE No: 2<br>REV: A |
| | CLIENT: EMM Consulting Pty Ltd | DATE: Nov 2022 |

# Attachment C

Laboratory Certificate(s) of Analysis (Air Monitoring)

**Douglas Partners (Syd)**
**96 Hermitage Road**
**West Ryde**
**NSW 2114**

| | |
|---|---|
| **Attention:** | Tim Kulmar |
| **Report** | 942326-AFC |
| **Project Name** | REDFERN PCYC |
| **Project ID** | 99510.01 |
| **Received Date** | Nov 17, 2022 |
| **Date Reported** | Nov 24, 2022 |

**METHODOLOGY:**

| | |
|---|---|
| Asbestos Sampling | Sampling as per the National Occupational Health & Safety Commission – Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)] and the NATA Specific Accreditation Criteria, ISO/IEC 17025 Application Document Life Sciences – Annex, Asbestos sampling and testing, Issued: March 2021. |
| Pump Calibration | Air sampling pump performance has been assessed in accordance with Australian Institute of Occupational Hygiene (AIOH) Technical Paper Air Sampling Pumps: Equipment Calibration Requirements. Pump flow rate measurement equipment (e.g. Field Rotameter) has been calibrated in accordance with AIOH Technical Paper Flow Measurement Equipment: Calibration Requirements. |
| Asbestos Counting | Fibre counting is conducted in accordance with the National Occupational Health & Safety Commission Guidance Note on the Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition , [NOHSC:3003(2005)] (MFM) and supplementary work instruction in-house LTM-ASB-8010. Unless specifically noted, analysis is undertaken by approved analysts at the base facility. Fibre counts (Fibres/fields) are covered by the facility's NATA scope of accreditation. The requirements of the NATA Specific Accreditation Criteria, ISO/IEC 17025 Application Document Life Sciences – Annex, Asbestos sampling and testing, Issued: March 2021 are realised. |

**Project Name** REDFERN PCYC
**Project ID** 99510.01
**Date Sampled** Nov 14, 2022
**Report** 942326-AFC

| Eurofins Sample No. | Client Sample ID | Pump ID | Location | Start (time) | End (time) | Start Flow Rate (L/min) | End Flow Rate (L/min) | Result (Fibres/Fields) | Result (Fibres/mL) |
|---|---|---|---|---|---|---|---|---|---|
| 22-No0043729 | DE323417 | DP22 | ENTRANCE TO COMPUTER ROOM | 9:45 | 17:07 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043730 | DE323415 | DP12 | CEILING CAVITY ABOVE GARDEN STORAGE | 9:47 | 17:10 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043731 | DE323459 | DP24 | GYM/ BOXING NORTH WEST | 9:49 | 17:12 | 2.0 | 2.0 | 5/100 | < 0.01 |
| 22-No0043732 | DE323431 | | MAIN HALLWAY NORTH END | | | | | 2/100 | |
| 22-No0043733 | DE323450 | DP03 | STATIONARY STOR | 9:52 | 17:16 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043734 | DE323437 | DP26 | GYM/ BOXING SOUTH EAST | 9:54 | 17:19 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043735 | DE323423 | DP04 | FOYER | 9:55 | 17:21 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043736 | DE323429 | DP23 | WEIGHT GYM/ SOUTH EAST | 9:56 | 17:23 | 2.0 | 2.0 | 0/100 | < 0.01 |

| Eurofins Sample No. | Client Sample ID | Pump ID | Location | Start (time) | End (time) | Start Flow Rate (L/min) | End Flow Rate (L/min) | Result (Fibres/Fields) | Result (Fibres/mL) |
|---|---|---|---|---|---|---|---|---|---|
| 22-No0043737 | DE323420 | DP25 | MEZZANINE VIEWING GALLERY, SOUTH | 9:57 | 17:26 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043738 | DE323457 | DP05 | LOUNGE, EAST | 9:59 | 17:28 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043739 | DE323414 | -- | BLANK | -- | -- | -- | -- | 0/100 | -- |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Asbestos - LTM-ASB-8010 | Sydney | Nov 18, 2022 | Indefinite |
| Asbestos - LTM-ASB-8010 | Sydney | Nov 18, 2022 | Indefinite |

eurofins

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**Company Name:** Douglas Partners (Syd)
**Address:** 96 Hermitage Road
West Ryde
NSW 2114

**Project Name:** REDFERN PCYC
**Project ID:** 99510.01

**Order No.:**
**Report #:** 942326
**Phone:** 02 9809 0666
**Fax:**

**Received:** Nov 17, 2022 9:22 AM
**Due:** Nov 24, 2022
**Priority:** 5 Day
**Contact Name:** Tim Kulmar

**Eurofins Analytical Services Manager : Hannah Mawbey**

| Sample Detail | | | | | | Asbestos (amount of fibres in air) | Asbestos Fibre Count & Concentration |
|---|---|---|---|---|---|---|---|
| **Sydney Laboratory - NATA # 1261 Site # 18217** | | | | | | X | X |
| **External Laboratory** | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | |
| 1 | DE323417 | Nov 14, 2022 | 9:45AM | Air | S22-No0043729 | | X |
| 2 | DE323415 | Nov 14, 2022 | 9:47AM | Air | S22-No0043730 | | X |
| 3 | DE323459 | Nov 14, 2022 | 9:49AM | Air | S22-No0043731 | | X |
| 4 | DE323431 | Nov 14, 2022 | 9:51AM | Air | S22-No0043732 | X | |
| 5 | DE323450 | Nov 14, 2022 | 9:52AM | Air | S22-No0043733 | | X |
| 6 | DE323437 | Nov 14, 2022 | 9:54AM | Air | S22-No0043734 | | X |
| 7 | DE323423 | Nov 14, 2022 | 9:55AM | Air | S22-No0043735 | | X |
| 8 | DE323429 | Nov 14, 2022 | 9:56AM | Air | S22-No0043736 | | X |
| 9 | DE323420 | Nov 14, 2022 | 9:57AM | Air | S22-No0043737 | | X |
| 10 | DE323457 | Nov 14, 2022 | 9:59AM | Air | S22-No0043738 | | X |
| 11 | DE323414 | Nov 14, 2022 | | Air | S22-No0043739 | | X |
| **Test Counts** | | | | | | 1 | 10 |

## Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

## Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

## Units

| | |
|---|---|
| % w/w: | Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**) |
| F/fld | Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**) |
| F/mL | Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**) |
| g, kg | Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**) |
| g/kg | Concentration in grams per kilogram |
| L, mL | Volume, e.g. of air as measured in AFM (**V** = **r** x **t**) |
| L/min | Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**) |
| min | Time (**t**), e.g. of air sample collection period |

## Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

## Terms

| | |
|---|---|
| **%asbestos** | Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**$P_A$**). |
| **ACM** | Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm. |
| **AF** | Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable". |
| **AFM** | Airborne Fibre Monitoring, e.g. by the MFM. |
| **Amosite** | Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004. |
| **AS** | Australian Standard. |
| **Asbestos Content (as asbestos)** | Total % w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**). |
| **Chrysotile** | Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004. |
| **COC** | Chain of Custody. |
| **Crocidolite** | Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004. |
| **Dry** | Sample is dried by heating prior to analysis. |
| **DS** | Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM. |
| **FA** | Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF. |
| **Fibre Count** | Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003 |
| **Fibre ID** | Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos. |
| **Friable** | Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability. |
| **HSG248** | UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021). |
| **HSG264** | UK HSE HSG264, *Asbestos: The Survey Guide* (2012). |
| **ISO (also ISO/IEC)** | International Organization for Standardization / International Electrotechnical Commission. |
| **K Factor** | Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**). |
| **LOR** | Limit of Reporting. |
| **MFM (also NOHSC:3003)** | Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)]. |
| **NEPM (also ASC NEPM)** | National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended). |
| **Organic** | Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004. |
| **PCM** | Phase Contrast Microscopy. As used for Fibre Counting according to the MFM. |
| **PLM** | Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004. |
| **SMF** | Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004. |
| **SRA** | Sample Receipt Advice. |
| **Trace Analysis** | Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix. |
| **UK HSE HSG** | United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication. |
| **UMF** | Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos. |
| **WA DOH** | Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis* |
| **Weighted Average** | Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**). |

## Comments

Volume Measurement : , Douglas Partners (Syd), has been trained by Eurofins and they conducted the sampling in accordance with the National Occupational Health & Safety Commission - Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)]methodology. Sampling pumps used by Douglas Partners (Syd) were calibrated by Eurofins Environment Testing and therefore volume measurements contained in this report are traceable back to Eurofins Environment Testing. Eurofins Environment Testing are responsible for all data contained in this report.

## Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | N/A |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

## Asbestos Counter/Identifier:

| | |
|---|---|
| Bennel Jiri | Senior Analyst-Asbestos |

## Authorised by:

| | |
|---|---|
| Laxman Dias | Senior Analyst-Asbestos |

**Glenn Jackson**
**General Manager**

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

**Douglas Partners (Syd)**
**96 Hermitage Road**
**West Ryde**
**NSW 2114**

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 18217**

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

| | |
|---|---|
| **Attention:** | Tim Kulmar |
| **Report** | 942338-AFC |
| **Project Name** | REDFERN PCYC |
| **Project ID** | 99510.01 |
| **Received Date** | Nov 17, 2022 |
| **Date Reported** | Nov 24, 2022 |

**METHODOLOGY:**

| | |
|---|---|
| Asbestos Sampling | Sampling as per the National Occupational Health & Safety Commission – Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)] and the NATA Specific Accreditation Criteria, ISO/IEC 17025 Application Document Life Sciences – Annex, Asbestos sampling and testing, Issued: March 2021. |
| Pump Calibration | Air sampling pump performance has been assessed in accordance with Australian Institute of Occupational Hygiene (AIOH) Technical Paper Air Sampling Pumps: Equipment Calibration Requirements. Pump flow rate measurement equipment (e.g. Field Rotameter) has been calibrated in accordance with AIOH Technical Paper Flow Measurement Equipment: Calibration Requirements. |
| Asbestos Counting | Fibre counting is conducted in accordance with the National Occupational Health & Safety Commission Guidance Note on the Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition , [NOHSC:3003(2005)] (MFM) and supplementary work instruction in-house LTM-ASB-8010. Unless specifically noted, analysis is undertaken by approved analysts at the base facility. Fibre counts (Fibres/fields) are covered by the facility's NATA scope of accreditation. The requirements of the NATA Specific Accreditation Criteria, ISO/IEC 17025 Application Document Life Sciences – Annex, Asbestos sampling and testing, Issued: March 2021 are realised. |

**Project Name** REDFERN PCYC
**Project ID** 99510.01
**Date Sampled** Nov 15, 2022
**Report** 942338-AFC

| Eurofins Sample No. | Client Sample ID | Pump ID | Location | Start (time) | End (time) | Start Flow Rate (L/min) | End Flow Rate (L/min) | Result (Fibres/Fields) | Result (Fibres/mL) |
|---|---|---|---|---|---|---|---|---|---|
| 22-No0043766 | DE323438 | DP25 | WEIGHT GYM 2, NORTH WEST | 9:56 | 16:39 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043767 | DE323447 | DP23 | MEZZANINE SHOWER, TOILET, SOUTH WEST | 10:00 | 16:39 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043768 | DE323449 | DP12 | STORAGE 7, SOUTH | 10:02 | 14:41 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043769 | DE323440 | DP03 | CEILING CAVITY ABOVE STORAGE 3 | 10:07 | 16:46 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043770 | DE323458 | | TOILET ADJACENT POLICE CHANGING ROOM | | | | | 1/100 | |
| 22-No0043771 | DE323422 | DP05 | HALLWAY, ENTRANCE TO DANCE STUDIO | 10:15 | 16:45 | 2.0 | 2.0 | 3/100 | < 0.01 |
| 22-No0043772 | DE323433 | DP22 | STORE 6, EAST | 10:17 | 16:36 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043773 | DE323421 | DP24 | CEILING CAVITY ABOVE GARDEN STORAGE | 10:18 | 16:37 | 2.0 | 2.0 | 0/100 | < 0.01 |

| Eurofins Sample No. | Client Sample ID | Pump ID | Location | Start (time) | End (time) | Start Flow Rate (L/min) | End Flow Rate (L/min) | Result (Fibres/Fields) | Result (Fibres/mL) |
|---|---|---|---|---|---|---|---|---|---|
| 22-No0043774 | DE323419 | DP04 | MAIN HALLWAY, NORTH END | 10:03 | 16:44 | 2.0 | 2.0 | 0/100 | < 0.01 |
| 22-No0043775 | DE006448 | -- | BLANK | -- | -- | -- | -- | 0/100 | -- |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Asbestos - LTM-ASB-8010 | Sydney | Nov 18, 2022 | Indefinite |
| Asbestos - LTM-ASB-8010 | Sydney | Nov 18, 2022 | Indefinite |

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**Eurofins Environment Testing NZ Ltd**
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IANZ# 1327

**Christchurch**
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Rolleston,
Christchurch 7675
Tel: 0800 856 450
IANZ# 1290

**Company Name:** Douglas Partners (Syd)
**Address:** 96 Hermitage Road
West Ryde
NSW 2114

**Project Name:** REDFERN PCYC
**Project ID:** 99510.01

**Order No.:**
**Report #:** 942338
**Phone:** 02 9809 0666
**Fax:**

**Received:** Nov 17, 2022 9:22 AM
**Due:** Nov 24, 2022
**Priority:** 5 Day
**Contact Name:** Tim Kulmar

**Eurofins Analytical Services Manager : Hannah Mawbey**

| Sample Detail | | | | | | Asbestos (amount of fibres in air) | Asbestos Fibre Count & Concentration |
|---|---|---|---|---|---|---|---|
| **Sydney Laboratory - NATA # 1261 Site # 18217** | | | | | | X | X |
| **External Laboratory** | | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | | |
| 1 | DE323438 | Nov 15, 2022 | 9:56AM | Air | S22-No0043766 | | X |
| 2 | DE323447 | Nov 15, 2022 | 10:00AM | Air | S22-No0043767 | | X |
| 3 | DE323449 | Nov 15, 2022 | 10:02AM | Air | S22-No0043768 | | X |
| 4 | DE323440 | Nov 15, 2022 | 10:07AM | Air | S22-No0043769 | | X |
| 5 | DE323458 | Nov 15, 2022 | 10:10AM | Air | S22-No0043770 | X | |
| 6 | DE323422 | Nov 15, 2022 | 10:15AM | Air | S22-No0043771 | | X |
| 7 | DE323433 | Nov 15, 2022 | 10:17AM | Air | S22-No0043772 | | X |
| 8 | DE323421 | Nov 15, 2022 | 10:18AM | Air | S22-No0043773 | | X |
| 9 | DE323419 | Nov 15, 2022 | 10:03AM | Air | S22-No0043774 | | X |
| 10 | DE006448 | Nov 15, 2022 | | Air | S22-No0043775 | | X |
| **Test Counts** | | | | | | 1 | 9 |

## Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

## Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

## Units

| | |
|---|---|
| % w/w: | Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**) |
| F/fld | Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**) |
| F/mL | Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**) |
| g, kg | Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**) |
| g/kg | Concentration in grams per kilogram |
| L, mL | Volume, e.g. of air as measured in AFM (**V** = **r** x **t**) |
| L/min | Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**) |
| min | Time (**t**), e.g. of air sample collection period |

## Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

## Terms

| | |
|---|---|
| **%asbestos** | Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**$P_A$**). |
| **ACM** | Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm. |
| **AF** | Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable". |
| **AFM** | Airborne Fibre Monitoring, e.g. by the MFM. |
| **Amosite** | Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004. |
| **AS** | Australian Standard. |
| **Asbestos Content (as asbestos)** | Total % w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**). |
| **Chrysotile** | Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004. |
| **COC** | Chain of Custody. |
| **Crocidolite** | Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004. |
| **Dry** | Sample is dried by heating prior to analysis. |
| **DS** | Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM. |
| **FA** | Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF. |
| **Fibre Count** | Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003 |
| **Fibre ID** | Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos. |
| **Friable** | Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability. |
| **HSG248** | UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021). |
| **HSG264** | UK HSE HSG264, *Asbestos: The Survey Guide* (2012). |
| **ISO (also ISO/IEC)** | International Organization for Standardization / International Electrotechnical Commission. |
| **K Factor** | Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**). |
| **LOR** | Limit of Reporting. |
| **MFM (also NOHSC:3003)** | Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)]. |
| **NEPM (also ASC NEPM)** | National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended). |
| **Organic** | Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004. |
| **PCM** | Phase Contrast Microscopy. As used for Fibre Counting according to the MFM. |
| **PLM** | Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004. |
| **SMF** | Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004. |
| **SRA** | Sample Receipt Advice. |
| **Trace Analysis** | Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix. |
| **UK HSE HSG** | United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication. |
| **UMF** | Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos. |
| **WA DOH** | Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis* |
| **Weighted Average** | Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**). |

## Comments

Volume Measurement : , Douglas Partners (Syd), has been trained by Eurofins and they conducted the sampling in accordance with the National Occupational Health & Safety Commission - Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)]methodology. Sampling pumps used by Douglas Partners (Syd) were calibrated by Eurofins Environment Testing and therefore volume measurements contained in this report are traceable back to Eurofins Environment Testing. Eurofins Environment Testing are responsible for all data contained in this report.

## Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | N/A |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

## Asbestos Counter/Identifier:

| | |
|---|---|
| Bennel Jiri | Senior Analyst-Asbestos |

## Authorised by:

| | |
|---|---|
| Laxman Dias | Senior Analyst-Asbestos |

**Glenn Jackson**
**General Manager**

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

# Certificate of Analysis

Environment Testing

**NATA Accredited**
**Accreditation Number 1261**
**Site Number 18217**

Accredited for compliance with ISO/IEC 17025–Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

**Douglas Partners (Syd)**
**96 Hermitage Road**
**West Ryde**
**NSW 2114**

| | |
|---|---|
| **Attention:** | Tim Kulmar |
| **Report** | 943441-AFA |
| **Project Name** | REDFERN PCYC |
| **Project ID** | 99510.01 |
| **Received Date** | Nov 22, 2022 |
| **Date Reported** | Nov 29, 2022 |

**METHODOLOGY:**

| | |
|---|---|
| Asbestos Counting | Conducted in accordance with the National Occupational Health & Safety Commission - Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)] and in-house Method LTM-ASB-8010. |

**Project Name** REDFERN PCYC
**Project ID** 99510.01
**Date Sampled** Nov 21, 2022
**Report** 943441-AFA

| Eurofins Sample No. | Client Sample ID | Location | Fibres/100 fields |
|---|---|---|---|
| 22-No0053046 | DE006421 | CEILING CAVITY ABOVE POLICE OFFICE | 4/100 |
| 22-No0053047 | DE323451 | BELOW MALZANINE MOVEMENT AREA | 0/100 |
| 22-No0053048 | DE323439 | WEIGHT GYM/ SOUTH | 0/100 |
| 22-No0053049 | DE006420 | BOXING GYM SOUTH EAST | 5/100 |
| 22-No0053050 | DE323430 | STORAGE 3 | 0/100 |
| 22-No0053051 | DE323436 | PHOTO ROOM | 0/100 |
| 22-No0053052 | DE323453 | MAIN HALL NORTH END | 2/100 |
| 22-No0053053 | DE002512 | MAIN ENTRY FOYER | 0/100 |

| Eurofins Sample No. | Client Sample ID | Location | Fibres/100 fields |
|---|---|---|---|
| 22-No0053054 | DE323452 | BOXING GYM, NORTH WEST | 3/100 |
| 22-No0053055 | DE002617 | BLANK | 0/100 |

## Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description | Testing Site | Extracted | Holding Time |
|---|---|---|---|
| Asbestos - LTM-ASB-8010 | Sydney | Nov 22, 2022 | Indefinite |

eurofins

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IANZ# 1290

**Company Name:** Douglas Partners (Syd)
**Address:** 96 Hermitage Road
West Ryde
NSW 2114

**Project Name:** REDFERN PCYC
**Project ID:** 99510.01

**Order No.:**
**Report #:** 943441
**Phone:** 02 9809 0666
**Fax:**

**Received:** Nov 22, 2022 3:49 PM
**Due:** Nov 29, 2022
**Priority:** 5 Day
**Contact Name:** Tim Kulmar

**Eurofins Analytical Services Manager : Hannah Mawbey**

| Sample Detail | | | | | | Asbestos (amount of fibres in air) |
|---|---|---|---|---|---|---|
| **Sydney Laboratory - NATA # 1261 Site # 18217** | | | | | | X |
| **External Laboratory** | | | | | | |
| **No** | **Sample ID** | **Sample Date** | **Sampling Time** | **Matrix** | **LAB ID** | |
| 1 | DE006421 | Nov 21, 2022 | 9:35AM | Air | S22-No0053046 | X |
| 2 | DE323451 | Nov 21, 2022 | 9:37AM | Air | S22-No0053047 | X |
| 3 | DE323439 | Nov 21, 2022 | 9:38AM | Air | S22-No0053048 | X |
| 4 | DE006420 | Nov 21, 2022 | 9:40AM | Air | S22-No0053049 | X |
| 5 | DE323430 | Nov 21, 2022 | 9:42AM | Air | S22-No0053050 | X |
| 6 | DE323436 | Nov 21, 2022 | 9:44AM | Air | S22-No0053051 | X |
| 7 | DE323453 | Nov 21, 2022 | 9:45AM | Air | S22-No0053052 | X |
| 8 | DE002512 | Nov 21, 2022 | 9:47AM | Air | S22-No0053053 | X |
| 9 | DE323452 | Nov 21, 2022 | 9:49AM | Air | S22-No0053054 | X |
| 10 | DE002617 | Nov 21, 2022 | | Air | S22-No0053055 | X |
| **Test Counts** | | | | | | 10 |

## Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

## Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).
If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

## Units

| | |
|---|---|
| % w/w: | Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (**% w/w**) |
| F/fld | Airborne fibre filter loading as Fibres (**N**) per Fields counted (**n**) |
| F/mL | Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane (**C**) |
| g, kg | Mass, e.g. of whole sample (**M**) or asbestos-containing find within the sample (**m**) |
| g/kg | Concentration in grams per kilogram |
| L, mL | Volume, e.g. of air as measured in AFM (**V** = **r** x **t**) |
| L/min | Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane (**r**) |
| min | Time (**t**), e.g. of air sample collection period |

## Calculations

Airborne Fibre Concentration: $C = \left(\frac{A}{a}\right) \times \left(\frac{N}{n}\right) \times \left(\frac{1}{r}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{n}\right) \times \left(\frac{1}{V}\right)$

Asbestos Content (as asbestos): $\%\, w/w = \frac{(m \times P_A)}{M}$

Weighted Average (of asbestos): $\%_{WA} = \sum \frac{(m \times P_A)_x}{x}$

## Terms

| | |
|---|---|
| **%asbestos** | Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 *Appendix 2*, else assumed to be 15% in accordance with WA DOH *Appendix 2* (**$P_A$**). |
| **ACM** | Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm. |
| **AF** | Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable". |
| **AFM** | Airborne Fibre Monitoring, e.g. by the MFM. |
| **Amosite** | Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004. |
| **AS** | Australian Standard. |
| **Asbestos Content (as asbestos)** | Total % w/w asbestos content in asbestos-containing finds in a soil sample (**% w/w**). |
| **Chrysotile** | Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004. |
| **COC** | Chain of Custody. |
| **Crocidolite** | Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004. |
| **Dry** | Sample is dried by heating prior to analysis. |
| **DS** | Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM. |
| **FA** | Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF. |
| **Fibre Count** | Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003 |
| **Fibre ID** | Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos. |
| **Friable** | Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability. |
| **HSG248** | UK HSE HSG248, *Asbestos: The Analysts Guide*, 2nd Edition (2021). |
| **HSG264** | UK HSE HSG264, *Asbestos: The Survey Guide* (2012). |
| **ISO (also ISO/IEC)** | International Organization for Standardization / International Electrotechnical Commission. |
| **K Factor** | Microscope constant (**K**) as derived from the effective filter area of the given AFM membrane used for collecting the sample (**A**) and the projected eyepiece graticule area of the specific microscope used for the analysis (**a**). |
| **LOR** | Limit of Reporting. |
| **MFM (also NOHSC:3003)** | Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres*, 2nd Edition [NOHSC:3003(2005)]. |
| **NEPM (also ASC NEPM)** | National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended). |
| **Organic** | Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004. |
| **PCM** | Phase Contrast Microscopy. As used for Fibre Counting according to the MFM. |
| **PLM** | Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004. |
| **SMF** | Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004. |
| **SRA** | Sample Receipt Advice. |
| **Trace Analysis** | Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix. |
| **UK HSE HSG** | United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication. |
| **UMF** | Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos. |
| **WA DOH** | Reference document for the NEPM. Government of Western Australia, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (updated 2021), including Appendix Four: *Laboratory analysis* |
| **Weighted Average** | Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample (**$\%_{WA}$**). |

## Comments

### Sample Integrity

| | |
|---|---|
| Custody Seals Intact (if used) | N/A |
| Attempt to Chill was evident | N/A |
| Sample correctly preserved | Yes |
| Appropriate sample containers have been used | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime | Yes |
| Some samples have been subcontracted | No |

### Asbestos Counter/Identifier:

| | |
|---|---|
| Bennel Jiri | Senior Analyst-Asbestos |

### Authorised by:

| | |
|---|---|
| Laxman Dias | Senior Analyst-Asbestos |

**Glenn Jackson**
**General Manager**

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please click here.

# Attachment D

Vinyl Tile Inspection Results

**DP Project No: 99510.01**
**Vinyl Tile Inspection Results**
**PCYC, 600-660 Elizabeth Street, Redfern NSW**

| | | | | | | Asbestos Risk Assessment | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Building** | **Location (General)** | **Location (Specific)** | **Material** | **Sample No.#** | **Material Status** | **Friability** | **Condition** | **Treatment** | **Accessibility** | **Activity** | **Ventilation** | **Risk Score** | **Action Priority** | **Photo No.*** | **Summary Recommendation** |
| PCYC | interior, storage 7 | floor, below carpet | blue vinyl tiles | A16 | asbestos detected by analysis | 0 | 1 | 1 | 1 | 2 | 1 | 6 | Low | 1, 2 | Reinspect hazardous material - Reinspect condition on a regular basis. Remove material prior to any significant disturbance (e.g. renovation, demolition or maintenance work). |
| PCYC | interior, stationary store | floor | blue vinyl tiles | refer A16 | asbestos detected by analysis | 0 | 1 | 1 | 2 | 2 | 1 | 7 | Low | 3,4 | Reinspect hazardous material - Reinspect condition on a regular basis. Remove material prior to any significant disturbance (e.g. renovation, demolition or maintenance work). |

* Refer Attachment B.
# Refer DP (2019).