

9 April 2024

Taariq Van Heerden
Cherrie Civil Engineering Pty Ltd
Via email: taariq@cherriecivil.com.au

**AMR138: Airborne Asbestos Fibre Monitoring Report
Westmead Integrated Mental Health Complex (IMHC) Redevelopment Project**

Dear Taariq,

Please find as **Attachment 1**, the airborne asbestos fibre monitoring results for the works associated with the Westmead Integrated Mental Health Complex (IMHC) redevelopment project within the Westmead Hospital Precinct, located at the corner of Redbank Road and Dragonfly Drive, Westmead NSW (the site) on **Monday 8 April 2024**. Daily sample locations are shown in, **Attachment 2**.

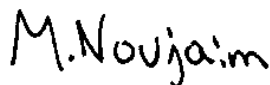
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

All reported results were satisfactory and conform with the minimum action level of <0.01 fibres /mL for control monitoring as outlined in:

- Work, Health and Safety (2017) Regulation; and
- SafeWork NSW (2022) Code of Practice – *How to Safely Remove Asbestos*.

If you have any questions regarding these results, please feel free to contact the undersigned on 02 8245 0300 or by mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA002002)
JBS&G Australia Pty Ltd

Attachment 1 – Airborne Asbestos Fibre Monitoring Results

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000



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: Milad Noujaim
Report 1085220-AFC
Project Name WESTMEAD
Project ID 65686
Received Date Apr 08, 2024
Date Reported Apr 08, 2024

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 2022.

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 2022 are realised.

Project Name WESTMEAD
Project ID 65686
Date Sampled Apr 08, 2024
Report 1085220-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)
24-Ap0016928	DI471408	AC152	LOC 1: BIRSB, SOUTH EAST ON FENCE ADJ TO LP2	7:12	15:09	2.0	2.0	0/100	< 0.01
24-Ap0016929	DI471458	AC061	LOC 2: BIRSB, NORTH EAST ON FENCE ADJ TO P14 CAR PARK	7:14	15:11	2.0	2.0	0/100	< 0.01
24-Ap0016930	DI471490	AC153	LOC 3: BIRSB, NORTH ON FENCE ADJ TO P14 CAR PARK	7:16	15:13	2.0	2.0	0/100	< 0.01
24-Ap0016931	DI474926	AC119	LOC 4: BIRSB, NORTH ON FENCE ADJ TO P14 & LP3	7:18	15:15	2.0	2.0	0/100	< 0.01
24-Ap0016932	DI471413	AC161	LOC 5: BIRSB, SOUTH WEST ON FENCE ADJ TO ENTRY GATE, DRAGON FLY DRIVE	7:20	15:18	2.0	2.0	0/100	< 0.01
24-Ap0016933	DI474922	AC095	LOC 6: LP3, SOUTH ON FENCE ADJ TO LP4, DRAGON FLY DRIVE	7:22	15:21	2.0	2.0	0/100	< 0.01
24-Ap0016934	DI474882	AC060	LOC 7: LP3, NORTH ON FENCE, ADJ TO BIRSB	7:24	15:24	2.0	2.0	0/100	< 0.01
24-Ap0016935	DI474949	AC143	LOC 8: LP5, SOUTH ON FENCE ADJ TO CCC	7:27	15:26	2.0	2.0	1/100	< 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)
24-Ap0016936	DI474860	AC042	LOC 9: LP5, NORTH ON FENCE ADJ TO CCC	7:28	15:27	2.0	2.0	0/100	< 0.01
24-Ap0016937	DI471393	AC171	LOC 10: LP4, SOUTH WEST ON FENCE ADJ TO REDBANK RD	7:32	15:31	2.0	2.0	0/100	< 0.01
24-Ap0016938	DI471527	--	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	Apr 08, 2024	Indefinite

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
 Sydney
 NSW 2000

Order No.:
Report #: 1085220
Phone: 02 8245 0300
Fax:

Received: Apr 8, 2024 5:21 PM
Due: Apr 8, 2024
Priority: Same day
Contact Name: Milad Noujaim

Project Name: WESTMEAD
Project ID: 65686

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Fibre Count & Concentration
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
Sydney Laboratory - NATA # 1261 Site # 18217						X
External Laboratory						
1	DI471408	Apr 08, 2024	7:12AM	Air	S24-Ap0016928	X
2	DI471458	Apr 08, 2024	7:14AM	Air	S24-Ap0016929	X
3	DI471490	Apr 08, 2024	7:16AM	Air	S24-Ap0016930	X
4	DI474926	Apr 08, 2024	7:18AM	Air	S24-Ap0016931	X
5	DI471413	Apr 08, 2024	7:20AM	Air	S24-Ap0016932	X
6	DI474922	Apr 08, 2024	7:22AM	Air	S24-Ap0016933	X
7	DI474882	Apr 08, 2024	7:24AM	Air	S24-Ap0016934	X
8	DI474949	Apr 08, 2024	7:27AM	Air	S24-Ap0016935	X
9	DI474860	Apr 08, 2024	7:28AM	Air	S24-Ap0016936	X
10	DI471393	Apr 08, 2024	7:32AM	Air	S24-Ap0016937	X
11	DI471527	Apr 08, 2024		Air	S24-Ap0016938	X
Test Counts						11

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

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

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

Terms

%asbestos	Estimated percentage of asbestos in a given matrix may be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2 (P_A)</i> . This estimate is not NATA-accredited.
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, <i>Asbestos: The Analysts Guide</i> , 2nd Edition (2021).
HSG264	UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (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, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 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.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
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 to 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, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>
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 : MILAD NOUJAIM, JBS & G Australia (NSW) P/L, 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 JBS & G Australia (NSW) P/L 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:

Geronimo Jr Abrot Senior Analyst-Asbestos

Authorised by:

Sayed Abu Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

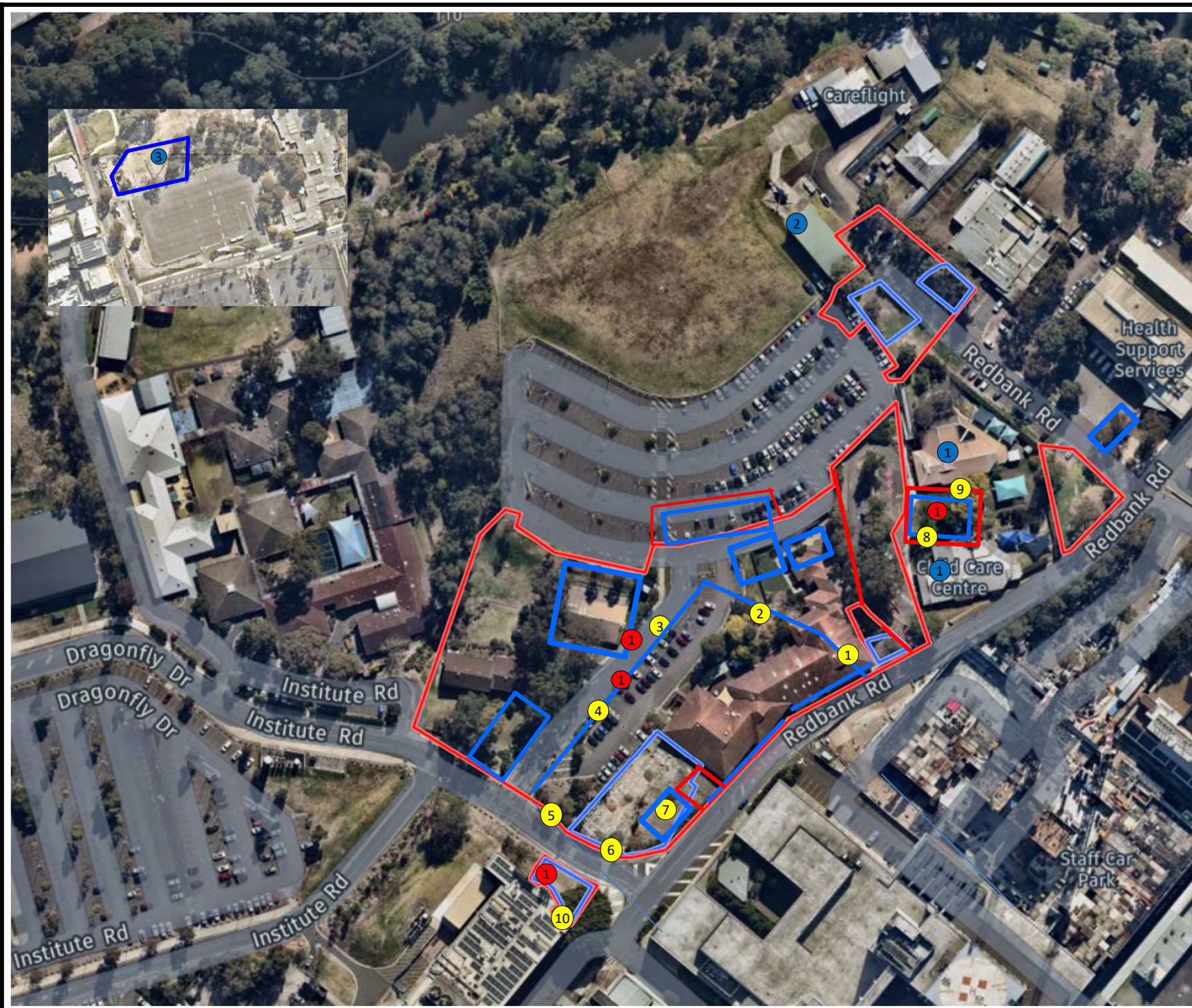
- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Attachment 2 – Daily Sample Locations



Legend:

- Approximate Site Boundary
- Approximate Exclusion Zone
- # Asbestos Air Monitoring Pumps
- ① Decontamination Unit
- ① Childcare Centre
- ② Care Flight
- ③ Figure Inset- Holding Yard Contractor Carpark



Job No: 65686

Client: Cherrie Civil Engineering Pty Ltd

Version: Rev A

Date: 08/04/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

10 April 2024

Taariq Van Heerden
Cherrie Civil Engineering Pty Ltd
Via email: taariq@cherriecivil.com.au

**AMR139: Airborne Asbestos Fibre Monitoring Report
Westmead Integrated Mental Health Complex (IMHC) Redevelopment Project**

Dear Taariq,

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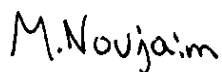
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- SafeWork NSW (2022) Code of Practice – *How to Safely Remove Asbestos*.

If you have any questions regarding these results, please feel free to contact the undersigned on 02 8245 0300 or by mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA002002)
JBS&G Australia Pty Ltd

Attachment 1 – Airborne Asbestos Fibre Monitoring Results

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000



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,
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reference materials producers reports and certificates.

Attention: Milad Noujaim
Report 1085677-AFC
Project Name WESTMEAD
Project ID 65686
Received Date Apr 09, 2024
Date Reported Apr 09, 2024

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 2022.

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Project Name WESTMEAD
Project ID 65686
Date Sampled Apr 09, 2024
Report 1085677-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)
24-Ap0020441	DI472098	AC095	LOC 1: BIRSB, SE ON FENCE ADJ TO LP2	7:42	14:41	2.0	2.0	0/100	< 0.01
24-Ap0020442	DI472130	AC060	LOC 2: BIRSB, NE ON FENCE ADJ TO P14 CAR PARK	7:45	14:43	2.0	2.0	0/100	< 0.01
24-Ap0020443	DI472164	AC042	LOC 3: BIRSB, NORTH ON FENCE ADJ TO P14 CAR PARK	7:47	14:45	2.0	2.0	0/100	< 0.01
24-Ap0020444	DI472151	AC153	LOC 4: BIRSB, NORTH ON FENCE ADJ TO P14 & LP3	7:49	14:47	2.0	2.0	0/100	< 0.01
24-Ap0020445	DI472682	AC119	LOC 5: BIRSB, SW ON FENCE ADJ TO ENTRY GATE, DRAGON FLY DRIVE	7:51	14:49	2.0	2.0	0/100	< 0.01
24-Ap0020446	DI472097	AC162	LOC 6: LP3, SOUTH ON FENCE ADJ TO LP4, DRAGON FLY DRIVE	7:53	14:52	2.0	2.0	0/100	< 0.01
24-Ap0020447	DI472089	AC151	LOC 7: LP3, NORTH ON FENCE ADJ TO BIRSB	7:55	14:53	2.0	2.0	0/100	< 0.01
24-Ap0020448	DI472088	AC143	LOC 11: LP9, NE ON FENCE ADJ TO OFFICE	8:14	14:57	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)
24-Ap0020449	DI472173	--	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	Apr 09, 2024	Indefinite

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
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Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
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 NSW 2000

Order No.:
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Phone: 02 8245 0300
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Received: Apr 9, 2024 5:10 PM
Due: Apr 9, 2024
Priority: Same day
Contact Name: Milad Noujaim

Project Name: WESTMEAD
Project ID: 65686

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Fibre Count & Concentration
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
Sydney Laboratory - NATA # 1261 Site # 18217						X
External Laboratory						
1	DI472098	Apr 09, 2024	7:42AM	Air	S24-Ap0020441	X
2	DI472130	Apr 09, 2024	7:45AM	Air	S24-Ap0020442	X
3	DI472164	Apr 09, 2024	7:47AM	Air	S24-Ap0020443	X
4	DI472151	Apr 09, 2024	7:49AM	Air	S24-Ap0020444	X
5	DI472682	Apr 09, 2024	7:51AM	Air	S24-Ap0020445	X
6	DI472097	Apr 09, 2024	7:53AM	Air	S24-Ap0020446	X
7	DI472089	Apr 09, 2024	7:55AM	Air	S24-Ap0020447	X
8	DI472088	Apr 09, 2024	8:14AM	Air	S24-Ap0020448	X
9	DI472173	Apr 09, 2024		Air	S24-Ap0020449	X
Test Counts						9

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

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

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

Terms

%asbestos	Estimated percentage of asbestos in a given matrix may be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2 (P_A)</i> . This estimate is not NATA-accredited.
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, <i>Asbestos: The Analysts Guide</i> , 2nd Edition (2021).
HSG264	UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (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, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 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.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
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 to 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, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>
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 : MILAD NOUJAIM, JBS & G Australia (NSW) P/L, 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 JBS & G Australia (NSW) P/L 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:

Geronimo Jr Abrot Senior Analyst-Asbestos

Authorised by:

Sayed Abu Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

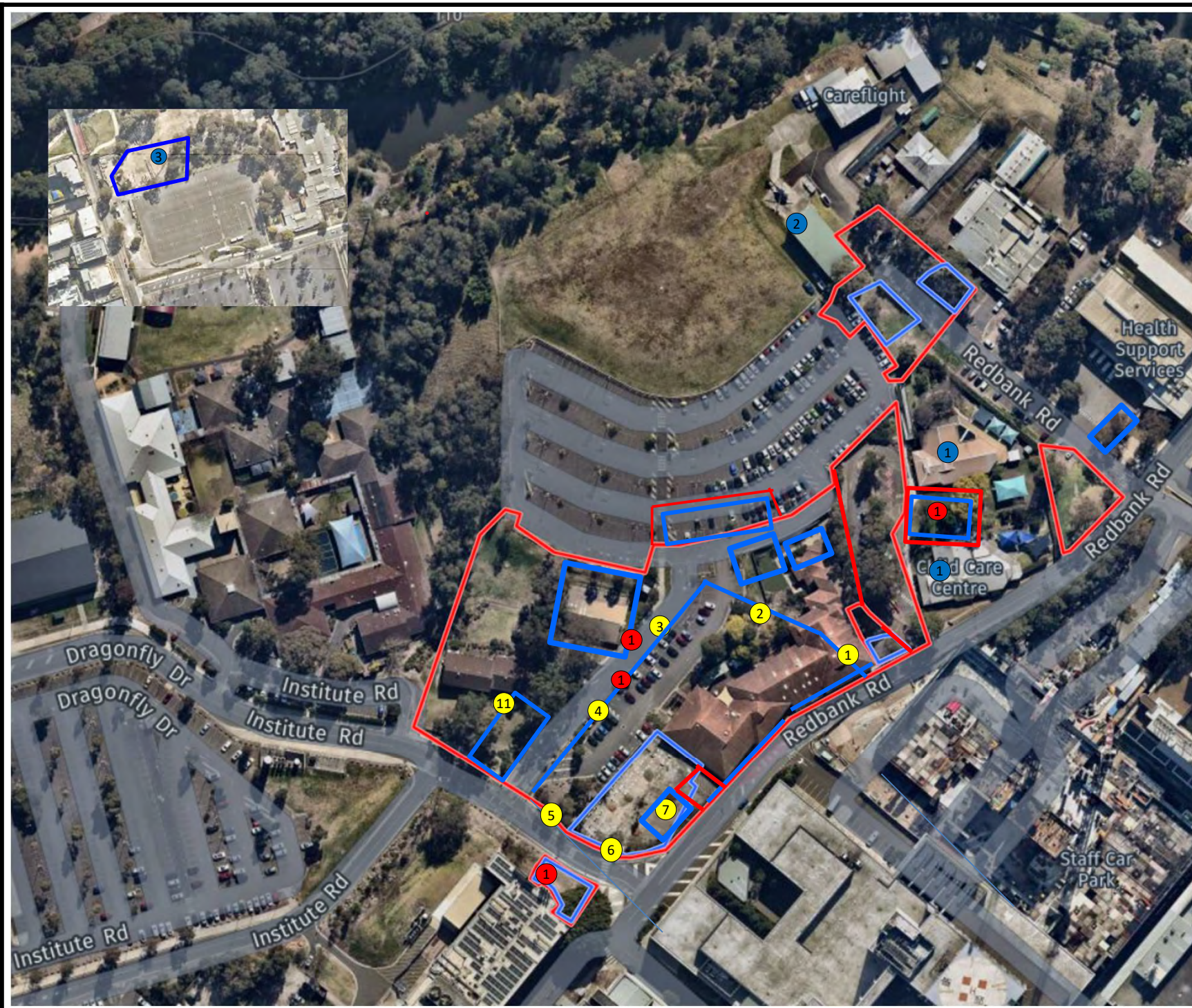
- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Attachment 2 – Daily Sample Locations



Legend:

- Approximate Site Boundary
- Approximate Exclusion Zone
- # Asbestos Air Monitoring Pumps
- ① Decontamination Unit
- ① Childcare Centre
- ② Care Flight
- ③ Figure Inset- Holding Yard Contractor Carpark



Job No: 65686

Client: Cherrie Civil Engineering Pty Ltd

Version: Rev A

Date: 09/04/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

11 April 2024

Taariq Van Heerden
Cherrie Civil Engineering Pty Ltd
Via email: taariq@cherriecivil.com.au

**AMR140: Airborne Asbestos Fibre Monitoring Report
Westmead Integrated Mental Health Complex (IMHC) Redevelopment Project**

Dear Taariq,

Please find as **Attachment 1**, the airborne asbestos fibre monitoring results for the works associated with the Westmead Integrated Mental Health Complex (IMHC) redevelopment project within the Westmead Hospital Precinct, located at the corner of Redbank Road and Dragonfly Drive, Westmead NSW (the site) on **Wednesday 10 April 2024**. Daily sample locations are shown in, **Attachment 2**.

All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

All reported results were satisfactory and conform with the minimum action level of <0.01 fibres /mL for control monitoring as outlined in:

- Work, Health and Safety (2017) Regulation; and
- SafeWork NSW (2022) Code of Practice – *How to Safely Remove Asbestos*.

If you have any questions regarding these results, please feel free to contact the undersigned on 02 8245 0300 or by kalamango@jbsg.com.au.

Yours sincerely:



Kerrin Alamango
Senior Occupational Hygienist & Associate
SafeWork NSW Licensed Asbestos Assessor (LAA000137)
JBS&G Australia Pty Ltd

Attachment 1 – Airborne Asbestos Fibre Monitoring Results

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000



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: Milad Noujaim
Report 1086162-AFC
Project Name WESTMEAD
Project ID 65686
Received Date Apr 10, 2024
Date Reported Apr 10, 2024

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 2022.
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 2022 are realised.

Project Name WESTMEAD
Project ID 65686
Date Sampled Apr 10, 2024
Report 1086162-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)
24-Ap0023894	DI472802	AC151	LOC 1: LP5, SOUTH ON FENCE ADJ TO CCC	7:18	14:52	2.0	2.0	0/100	< 0.01
24-Ap0023895	DI472392	AC162	LOC 2: LP5, EAST ON FENCE ADJ TO CCC	7:19	14:53	2.0	2.0	0/100	< 0.01
24-Ap0023896	DI473159	AC060	LOC 3: LP5, NORTH ON FENCE ADJ TO CCC	7:20	14:54	2.0	2.0	0/100	< 0.01
24-Ap0023897	DI472121	AC061	LOC 4: BIRSB, SE ON FENCE ADJ TO LP2	7:23	14:59	2.0	2.0	1/100	< 0.01
24-Ap0023898	DI472688	AC119	LOC 5: BIRSB, NE ON FENCE ADJ TO P14 CAR PARK	7:24	15:02	2.0	2.0	1/100	< 0.01
24-Ap0023899	DI472161	AC153	LOC 6: BIRSB, NORTH ON FENCE ADJ TO P14 CAR PARK	7:26	15:03	2.0	2.0	0/100	< 0.01
24-Ap0023900	DI472106	AC042	LOC 7: BIRSB, NORTH ON FENCE ADJ TO LP3, P14 CAR PARK	7:27	15:05	2.0	2.0	0/100	< 0.01
24-Ap0023901	DI472127	AC048	LOC 8: BIRSB, SW ON FENCE ADJACENT TO ENTRY GATE, DRAGON FLY DRIVE	7:29	15:06	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)
24-Ap0023902	DI472163	AC171	LOC 9: LP3, SOUTH ON FENCE ADJ TO LP4, DRAGON FLY DRIVE	7:30	15:08	2.0	2.0	0/100	< 0.01
24-Ap0023903	DI472095	AC143	LOC 10: LP3, NORTH ON FENCE ADJ TO BIRSB	7:32	15:10	2.0	2.0	0/100	< 0.01
24-Ap0023904	DI472838	AC095	LOC 11: LP4, NORTH ON FENCE, ADJ TO DRAGON FLY DRIVE	7:34	11:48	2.0	2.0	0/100	< 0.01
24-Ap0023905	DI472201	AC161	LOC 12: LP4, SOUTH ON FENCE ADJ TO REDBANK RD	7:35	15:13	2.0	2.0	0/100	< 0.01
24-Ap0023906	DI472198	--	BLANK	--	--	--	--	0/100	--
24-Ap0023907	DI472999	AC095	LOC 13: AREA NORTH OF LP2, EAST ON FENCE ADJ TO CCC	11:55	16:11	2.0	2.0	0/100	< 0.01

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	Apr 10, 2024	Indefinite

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
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 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
 Sydney
 NSW 2000

Project Name: WESTMEAD
Project ID: 65686

Order No.:
Report #: 1086162
Phone: 02 8245 0300
Fax:

Received: Apr 10, 2024 5:16 PM
Due: Apr 10, 2024
Priority: Same day
Contact Name: Milad Noujaim

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Fibre Count & Concentration
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
Sydney Laboratory - NATA # 1261 Site # 18217						X
External Laboratory						
1	DI472802	Apr 10, 2024	2:52AM	Air	S24-Ap0023894	X
2	DI472392	Apr 10, 2024	2:53AM	Air	S24-Ap0023895	X
3	DI473159	Apr 10, 2024	2:54AM	Air	S24-Ap0023896	X
4	DI472121	Apr 10, 2024	2:59AM	Air	S24-Ap0023897	X
5	DI472688	Apr 10, 2024	3:02PM	Air	S24-Ap0023898	X
6	DI472161	Apr 10, 2024	3:03PM	Air	S24-Ap0023899	X
7	DI472106	Apr 10, 2024	3:05PM	Air	S24-Ap0023900	X
8	DI472127	Apr 10, 2024	3:06PM	Air	S24-Ap0023901	X
9	DI472163	Apr 10, 2024	3:08PM	Air	S24-Ap0023902	X
10	DI472095	Apr 10, 2024	3:10PM	Air	S24-Ap0023903	X
11	DI472838	Apr 10, 2024	11:48AM	Air	S24-Ap0023904	X
12	DI472201	Apr 10, 2024	3:13PM	Air	S24-Ap0023905	X
13	DI472198	Apr 10, 2024		Air	S24-Ap0023906	X



Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
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Company Name:	JBS & G Australia (NSW) P/L	Order No.:		Received:	Apr 10, 2024 5:16 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	Report #:	1086162	Due:	Apr 10, 2024
Project Name:	WESTMEAD	Phone:	02 8245 0300	Priority:	Same day
Project ID:	65686	Fax:		Contact Name:	Milad Noujaim
Eurofins Analytical Services Manager : Andrew Black					

Sample Detail					Asbestos Fibre Count & Concentration	
Sydney Laboratory - NATA # 1261 Site # 18217					X	
14	DI472999	Apr 10, 2024	4:11PM	Air	S24-Ap0023907	X
Test Counts					14	

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

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

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

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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 : Milad Noujaim, JBS & G Australia (NSW) P/L, 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 JBS & G Australia (NSW) P/L 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	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Geronimo Jr Abrot Senior Analyst-Asbestos

Authorised by:

Laxman Dias Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

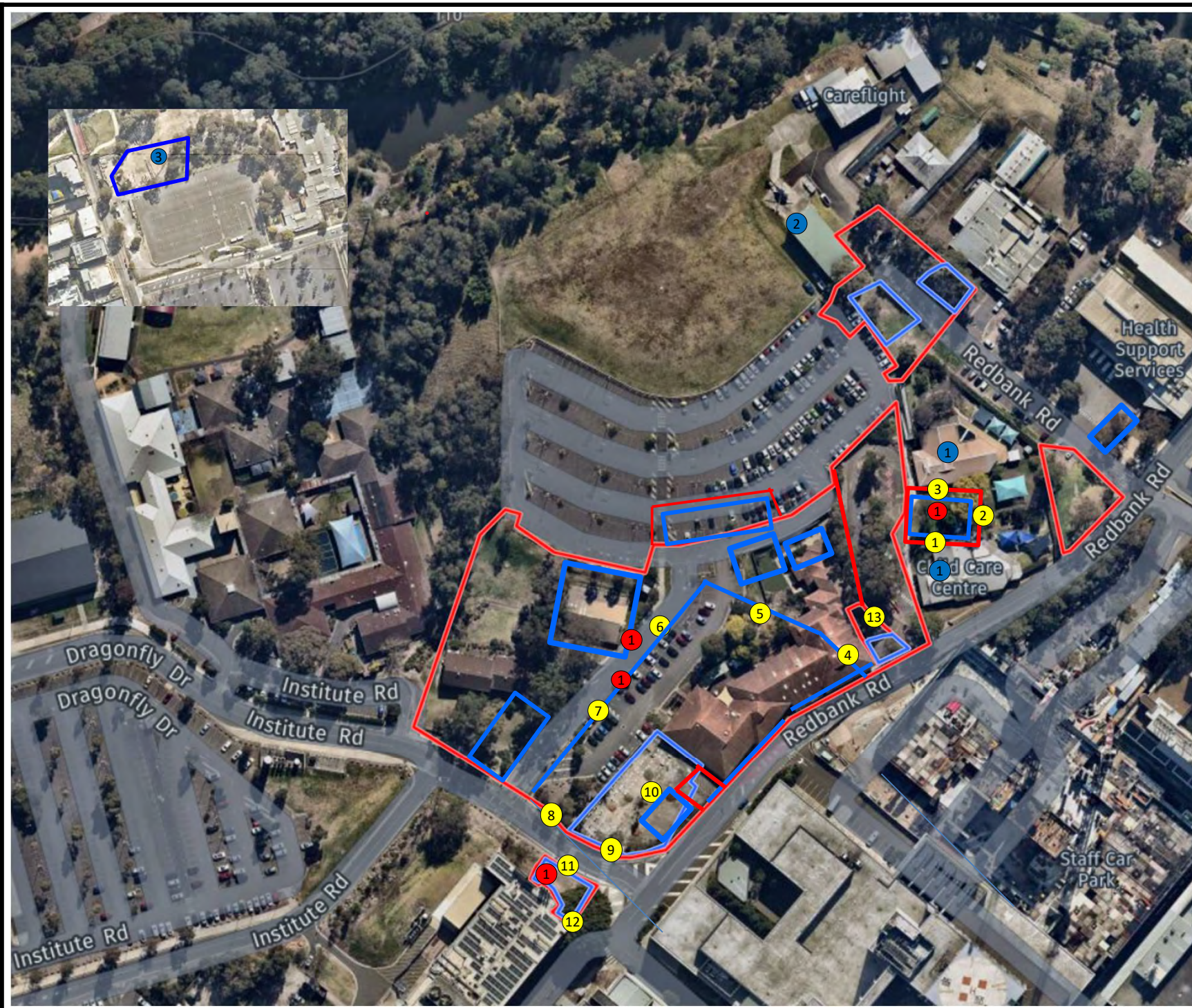
- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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Attachment 2 – Daily Sample Locations



Legend:

- Approximate Site Boundary
- Approximate Exclusion Zone
- # Asbestos Air Monitoring Pumps
- ① Decontamination Unit
- ① Childcare Centre
- ② Care Flight
- ③ Figure Inset- Holding Yard Contractor Carpark



Job No: 65686

Client: Cherrie Civil Engineering Pty Ltd

Version: Rev A

Date: 10/04/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

12 April 2024

Taariq Van Heerden
Cherrie Civil Engineering Pty Ltd
Via email: taariq@cherriecivil.com.au

**AMR141: Airborne Asbestos Fibre Monitoring Report
Westmead Integrated Mental Health Complex (IMHC) Redevelopment Project**

Dear Taariq,

Please find as **Attachment 1**, the airborne asbestos fibre monitoring results for the works associated with the Westmead Integrated Mental Health Complex (IMHC) redevelopment project within the Westmead Hospital Precinct, located at the corner of Redbank Road and Dragonfly Drive, Westmead NSW (the site) on **Thursday 11 April 2024**. Daily sample locations are shown in, **Attachment 2**.

All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

All reported results were satisfactory and conform with the minimum action level of <0.01 fibres /mL for control monitoring as outlined in:

- Work, Health and Safety (2017) Regulation; and
- SafeWork NSW (2022) Code of Practice – *How to Safely Remove Asbestos*.

If you have any questions regarding these results, please feel free to contact the undersigned on 02 8245 0300 or by kalamango@jbsg.com.au.

Yours sincerely:



Kerrin Alamango
Senior Occupational Hygienist & Associate
SafeWork NSW Licensed Asbestos Assessor (LAA000137)
JBS&G Australia Pty Ltd

Attachment 1 – Airborne Asbestos Fibre Monitoring Results

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000



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: Milad Noujaim
Report 1086644-AFC
Project Name IMITC WESTMEAD
Project ID 65686
Received Date Apr 11, 2024
Date Reported Apr 11, 2024

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 2022.

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 2022 are realised.

Project Name IMITC WESTMEAD
Project ID 65686
Date Sampled Apr 11, 2024
Report 1086644-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)
24-Ap0027384	DI474918	AC061	LOC 1- LP7, ON NORTH- WEST- BOUNDARY ADJ, P14 CAR PARK DURING SOIL EXTRACTION	7:36	14:40	2.0	2.1	0/100	< 0.01
24-Ap0027385	DI474952	AC162	LOC 2- LP7 ON SOUTH- EAST BOUNDARY ADJ DECON UNIT DURING SOIL EXTRACTION	7:40	14:42	2.0	2.1	0/100	< 0.01
24-Ap0027386	DI474892	AC153	LOC 3- BIRS WORKS ZONE, ON WESTERN BOUNDARY ADJ DECON UNIT VAC TRUCK NDD	7:42	14:43	2.0	2.0	0/100	< 0.01
24-Ap0027387	DI474915	AC171	LOC 4- ACM BUND/ STOCKPILE ON WESTERN BOUNDARY ADJ P14 CAR PARK, VAC TRUCK UNLOADING	7:44	14:45	2.0	2.1	0/100	< 0.01
24-Ap0027388	DI473168	AC042	LOC 5- ACM BUND/ STOCKPILE, ON NORTHERN BOUNDARY ADJ, CHILD CARE CENTRE, VAC TRUCK UNLOADING	7:46	14:48	2.0	2.1	0/100	< 0.01
24-Ap0027389	DI472886	AC161	LOC 6- LP4 ON WESTERN BOUNDARY, FILL EXCAVATION & LOAD OUT	7:51	14:15	2.0	2.0	0/100	< 0.01
24-Ap0027390	DI472708	AC119	LOC 7- BIRS WORKS ZONE, ON SOUTHERN BOUNDARY DURING SOIL MOVEMENTS	7:53	14:16	2.0	2.0	0/100	< 0.01
24-Ap0027391	DI472690	AC060	LOC 8- BIRS WORKS ZONE, ON SOUTH- EAST BOUNDARY	7:56	14:19	2.0	1.9	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)
24-Ap0027392	DI472133	AC048	LOC 9- LP5, VAC TRUCK NDD, ON EASTERN BOUNDARY	8:00	14:23	2.0	2.1	0/100	< 0.01
24-Ap0027393	DI472235	AC151	LOC 10- LP5, VAC TRUCK NDD, ON WESTERN BOUNDARY	8:02	14:42	2.0	2.1	0/100	< 0.01
24-Ap0027394	DI472237	AC143	LOC 11- CHILD CARE CENTRE, CAR PARK ON NORTH- EAST BOUNDARY ADJ CHILD CARE CENTRE	8:04	14:22	2.0	2.1	0/100	< 0.01
24-Ap0027395	DI472814	AC095	LOC 12- LP4 ON NORTH- EASTERN BOUNDARY FILL EXCAVATION & LOAD OUT	8:06	14:18	2.0	1.9	0/100	< 0.01
24-Ap0027396	DI474901	--	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	Apr 11, 2024	Indefinite

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
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 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
 Sydney
 NSW 2000

Project Name: IMITC WESTMEAD
Project ID: 65686

Order No.:
Report #: 1086644
Phone: 02 8245 0300
Fax:

Received: Apr 11, 2024 3:39 PM
Due: Apr 11, 2024
Priority: Same day
Contact Name: Milad Noujaim

Eurofins Analytical Services Manager : Andrew Black

Sample Detail	Asbestos Fibre Count & Concentration
----------------------	--------------------------------------

Sydney Laboratory - NATA # 1261 Site # 18217						X
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DI474918	Apr 11, 2024	2:40PM	Air	S24-Ap0027384	X
2	DI474952	Apr 11, 2024	2:42PM	Air	S24-Ap0027385	X
3	DI474892	Apr 11, 2024	2:43PM	Air	S24-Ap0027386	X
4	DI474915	Apr 11, 2024	2:45PM	Air	S24-Ap0027387	X
5	DI473168	Apr 11, 2024	2:48PM	Air	S24-Ap0027388	X
6	DI472886	Apr 11, 2024	2:15PM	Air	S24-Ap0027389	X
7	DI472708	Apr 11, 2024	2:16PM	Air	S24-Ap0027390	X
8	DI472690	Apr 11, 2024	2:19PM	Air	S24-Ap0027391	X
9	DI472133	Apr 11, 2024	2:23PM	Air	S24-Ap0027392	X
10	DI472235	Apr 11, 2024	2:24PM	Air	S24-Ap0027393	X
11	DI472237	Apr 11, 2024	2:22PM	Air	S24-Ap0027394	X
12	DI472814	Apr 11, 2024	2:18PM	Air	S24-Ap0027395	X
13	DI474901	Apr 11, 2024		Air	S24-Ap0027396	X



Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289
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Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
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web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name:	JBS & G Australia (NSW) P/L	Order No.:		Received:	Apr 11, 2024 3:39 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	Report #:	1086644	Due:	Apr 11, 2024
		Phone:	02 8245 0300	Priority:	Same day
		Fax:		Contact Name:	Milad Noujaim
Project Name:	IMITC WESTMEAD				
Project ID:	65686				
Eurofins Analytical Services Manager : Andrew Black					

Sample Detail	Asbestos Fibre Count & Concentration
Sydney Laboratory - NATA # 1261 Site # 18217	X
Test Counts	13

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

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

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

Terms

%asbestos	Estimated percentage of asbestos in a given matrix may be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2 (PA)</i> . This estimate is not NATA-accredited.
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, <i>Asbestos: The Analysts Guide</i> , 2nd Edition (2021).
HSG264	UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (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, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 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.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
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 to 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, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>
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 : Kerrin Alamango, JBS & G Australia (NSW) P/L, 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 JBS & G Australia (NSW) P/L 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	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Geronimo Jr Abrot Senior Analyst-Asbestos

Authorised by:

Laxman Dias Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

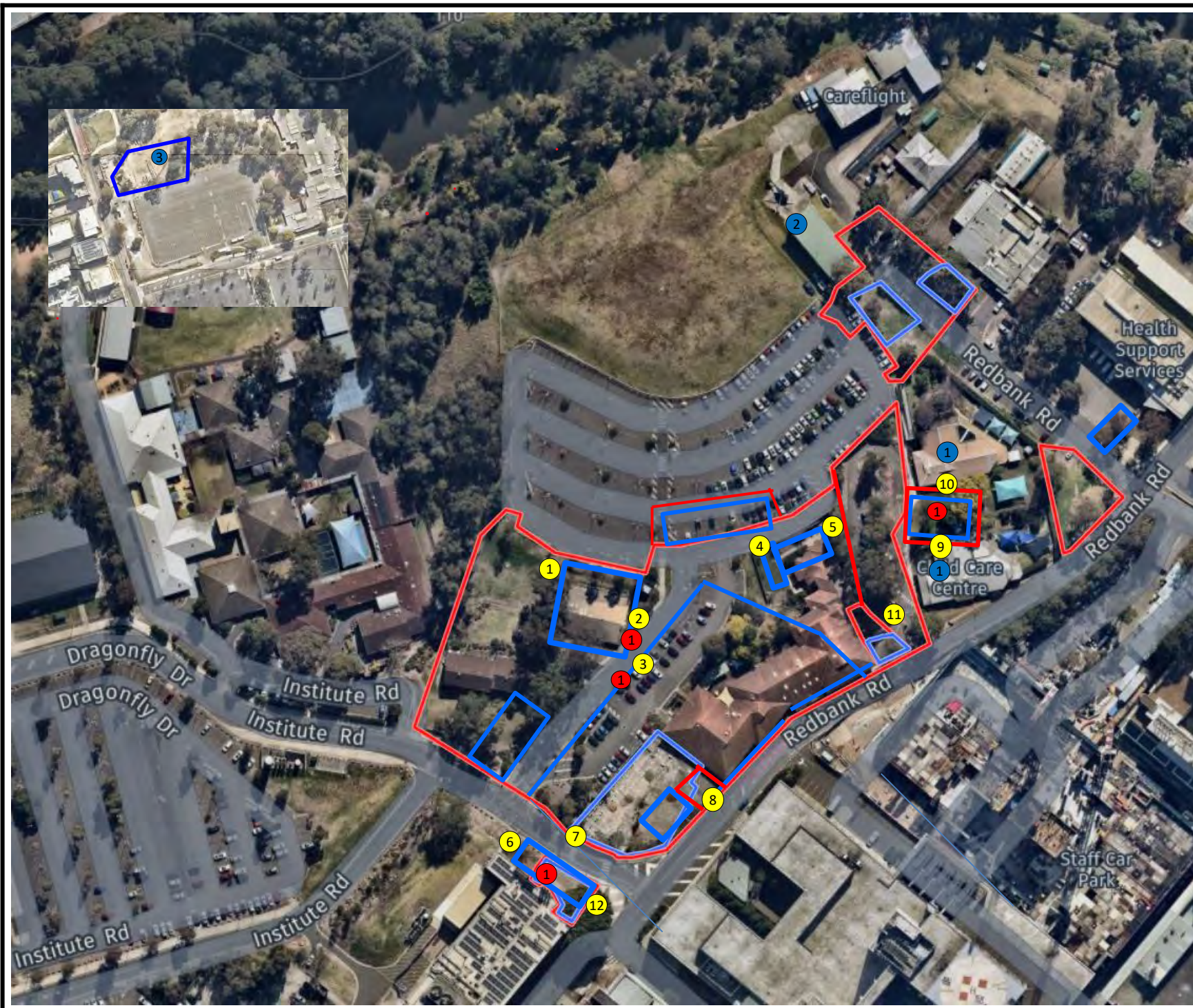
- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

Eurofins shall not be liable for loss, cost, damages or expenses incurred by the client, or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Eurofins be liable for consequential damages including, but not limited to, lost profits, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested. Unless indicated otherwise, the tests were performed on the samples as received.

Attachment 2 – Daily Sample Locations



Legend:

- Approximate Site Boundary
- Approximate Exclusion Zone
- # Asbestos Air Monitoring Pumps
- ① Decontamination Unit
- ① Childcare Centre
- ② Care Flight
- ③ Figure Inset- Holding Yard Contractor Carpark



Job No: 65686

Client: Cherrie Civil Engineering Pty Ltd

Version: Rev A

Date: 11/04/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

15 April 2024

Taariq Van Heerden
Cherrie Civil Engineering Pty Ltd
Via email: taariq@cherriecivil.com.au

**AMR142: Airborne Asbestos Fibre Monitoring Report
Westmead Integrated Mental Health Complex (IMHC) Redevelopment Project**

Dear Taariq,

Please find as **Attachment 1**, the airborne asbestos fibre monitoring results for the works associated with the Westmead Integrated Mental Health Complex (IMHC) redevelopment project within the Westmead Hospital Precinct, located at the corner of Redbank Road and Dragonfly Drive, Westmead NSW (the site) on **Friday 12 April 2024**. Daily sample locations are shown in, **Attachment 2**.

All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

All reported results were satisfactory and conform with the minimum action level of <0.01 fibres /mL for control monitoring as outlined in:

- Work, Health and Safety (2017) Regulation; and
- SafeWork NSW (2022) Code of Practice – *How to Safely Remove Asbestos*.

If you have any questions regarding these results, please feel free to contact the undersigned on 02 8245 0300 or by kalamango@jbsg.com.au.

Yours sincerely:



Kerrin Alamango
Senior Occupational Hygienist & Associate
SafeWork NSW Licensed Asbestos Assessor (LAA000137)
JBS&G Australia Pty Ltd

Attachment 1 – Airborne Asbestos Fibre Monitoring Results

JBS & G Australia (NSW) P/L
Level 1, 50 Margaret St
Sydney
NSW 2000



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: Milad Noujaim
Report 1087096-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Apr 12, 2024
Date Reported Apr 12, 2024

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 2022.

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 2022 are realised.

Project Name IMHC WESTMEAD
Project ID 65686
Date Sampled Apr 12, 2024
Report 1087096-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)
24-Ap0031305	DI473190	AC048	LOC 1- LP8/ LP9 NORTH- WEST BOUNDARY, EXCAVATOR SOIL MOVEMENTS	7:25	15:21	2.0	2.0	0/100	< 0.01
24-Ap0031306	DI473248	AC151	LOC 2- LP7, NORTH- WEST BOUNDARY ADJ P14 CAR PARK, DURING EXCAVATOR SOIL MOVEMENTS	7:28	15:24	2.0	2.0	0/100	< 0.01
24-Ap0031307	DI473226	AC119	LOC 3- LP8/ LP9 ON SOUTH- EAST BOUNDARY ADJ DRAGON FLY DR, EXCAVATOR SOIL MOVEMENTS	7:32	15:27	2.0	2.0	0/100	< 0.01
24-Ap0031308	DI473143	AC161	LOC 4- BIRS MAIN WORKS ZONE, ON WESTERN BOUNDARY DURING LOADER SOIL MOVEMENTS	7:34	15:29	2.0	2.0	0/100	< 0.01
24-Ap0031309	DI472679	AC095	LOC 5- LP7, ON NORTH EAST BOUNDARY DURING EXCAVATOR SOIL MOVEMENTS	7:36	15:32	2.0	2.0	2/100	< 0.01
24-Ap0031310	DI472864	AC143	LOC 6- ACM STOCKPILE BUND, ON WESTERN BOUNDARY, VAC TRUCK UNLOADING	7:39	15:35	2.0	2.0	0/100	< 0.01
24-Ap0031311	DI472659	AC042	LOC 7- BIRS ZONE & ACM STOCKPILE ON NORTHERN BOUNDARY ADJ CHILD CARE CENTRE	7:41	15:38	2.0	2.0	0/100	< 0.01
24-Ap0031312	DI473090	AC153	LOC 8- BIRS ZONE & CCC CAR PARK, ON NORTH- EAST BOUNDARY ADJ CHILD CARE CENTRE	7:44	15:41	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)
24-Ap0031313	DI473148	AC171	LC 9- BIRS MAIN WORKS ZONE, ON SOUTH- EAST BOUNDARY DURING SOIL MOVEMENTS	7:56	15:44	2.0	2.0	0/100	< 0.01
24-Ap0031314	DI472191	AC060	LOC 10- LP4, ON NORTH- EAST BOUNDARY DURING SOIL EXCAVATION & LOADOUT	7:58	15:47	2.0	2.0	0/100	< 0.01
24-Ap0031315	DI472689	AC162	LOC 11- LP4, ON WESTERN BOUNDARY DURING SOIL EXCAVATION & LOADOUT	8:00	15:51	2.0	2.0	0/100	< 0.01
24-Ap0031316	DI473120	--	BLANK	--	--	--	--	2/100	--

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	Apr 12, 2024	Indefinite

Melbourne 6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	Geelong 19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	Sydney 179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Canberra Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	Brisbane 1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079 & 25289	Perth 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2377 Site# 2370	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554	Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Asb) Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	Christchurch 43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	Tauranga 1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402
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 web: www.eurofins.com.au
 email: EnviroSales@eurofins.com

Company Name: JBS & G Australia (NSW) P/L
Address: Level 1, 50 Margaret St
 Sydney
 NSW 2000

Project Name: IMHC WESTMEAD
Project ID: 65686

Order No.:
Report #: 1087096
Phone: 02 8245 0300
Fax:

Received: Apr 12, 2024 5:00 PM
Due: Apr 12, 2024
Priority: Same day
Contact Name: Milad Noujaim

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Asbestos Fibre Count & Concentration
Sydney Laboratory - NATA # 1261 Site # 18217						X
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DI473190	Apr 12, 2024	3:21PM	Air	S24-Ap0031305	X
2	DI473248	Apr 12, 2024	3:24PM	Air	S24-Ap0031306	X
3	DI473226	Apr 12, 2024	3:27PM	Air	S24-Ap0031307	X
4	DI473143	Apr 12, 2024	3:29PM	Air	S24-Ap0031308	X
5	DI472679	Apr 12, 2024	3:32PM	Air	S24-Ap0031309	X
6	DI472864	Apr 12, 2024	3:35PM	Air	S24-Ap0031310	X
7	DI472659	Apr 12, 2024	3:38PM	Air	S24-Ap0031311	X
8	DI473090	Apr 12, 2024	3:41PM	Air	S24-Ap0031312	X
9	DI473148	Apr 12, 2024	3:44PM	Air	S24-Ap0031313	X
10	DI472191	Apr 12, 2024	3:47PM	Air	S24-Ap0031314	X
11	DI472689	Apr 12, 2024	3:51PM	Air	S24-Ap0031315	X
12	DI473120	Apr 12, 2024		Air	S24-Ap0031316	X
Test Counts						12

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

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

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

Terms

%asbestos	Estimated percentage of asbestos in a given matrix may be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2 (P_A)</i> . This estimate is not NATA-accredited.
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, <i>Asbestos: The Analysts Guide</i> , 2nd Edition (2021).
HSG264	UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (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, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 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.
Sampling	Unless otherwise stated Eurofins are not responsible for sampling equipment or the sampling process.
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 to 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, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>
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 : Kerrin Alamango, JBS & G Australia (NSW) P/L, 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 JBS & G Australia (NSW) P/L 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:

Sayed Abu Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

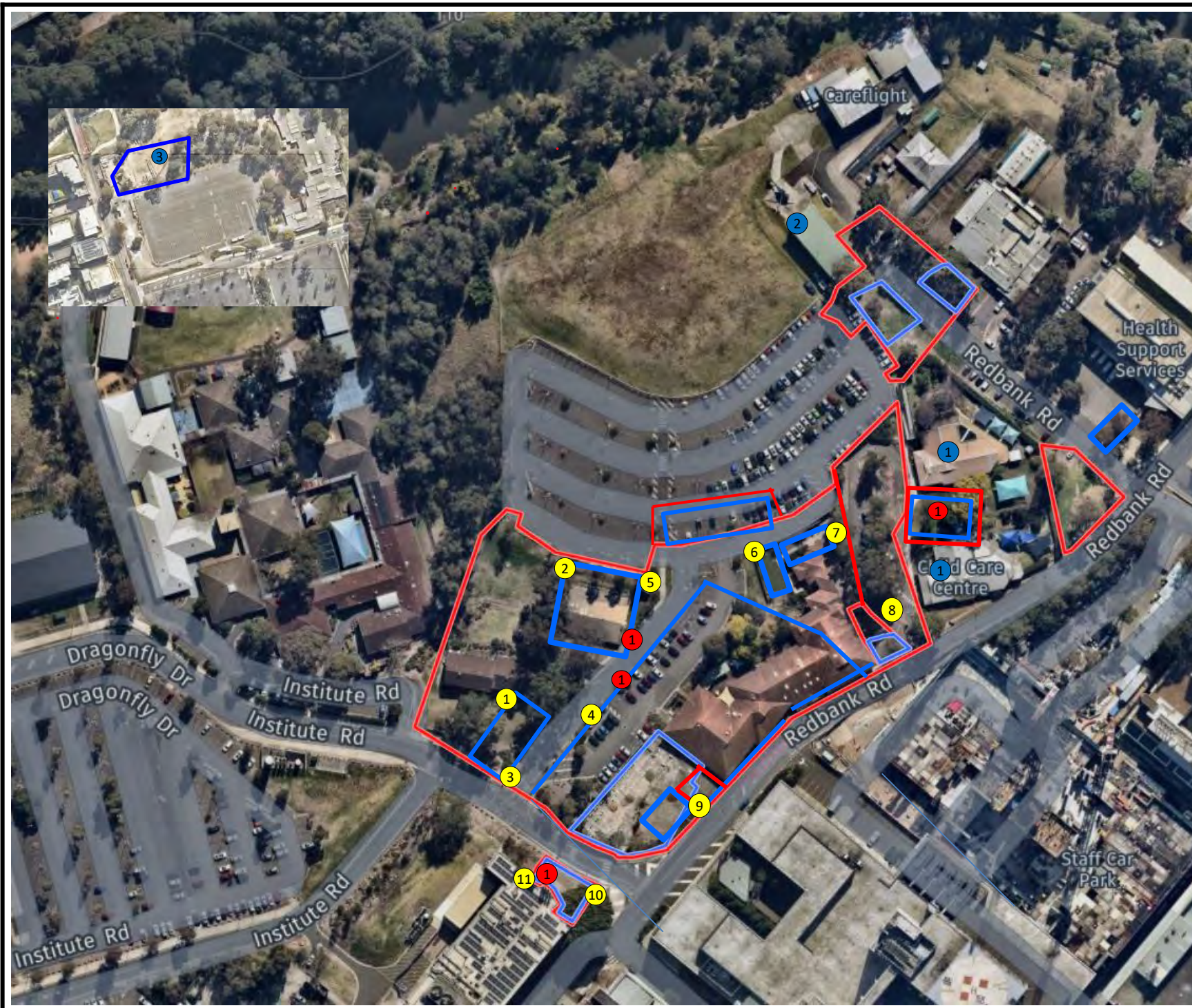
- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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Attachment 2 – Daily Sample Locations



Legend:

- Approximate Site Boundary
- Approximate Exclusion Zone
- # Asbestos Air Monitoring Pumps
- ① Decontamination Unit
- ① Childcare Centre
- ② Care Flight
- ③ Figure Inset- Holding Yard Contractor Carpark



Job No: 65686

Client: Cherrie Civil Engineering Pty Ltd

Version: Rev A

Date: 12/04/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1