

2 July 2024

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

**AMR209: 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 1 July 2024**. Daily sample locations are shown in, **Attachment 2**.

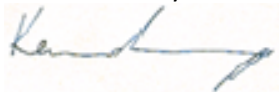
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

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 1113296-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 01, 2024
Date Reported Jul 01, 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 Jul 01, 2024
Report 1113296-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-JI0002032	DJ212928	AC241	LOC 1 - BIRS PILING ZONE-ON WESTERN BOUNDARY	8:00	15:10	2.0	2.0	0/100	< 0.01
24-JI0002033	DJ212898	AC227	LOC 2 - BIRS PILING ZONE, ON CLEAN END OF DECON UNIT	8:03	15:08	2.0	2.0	0/100	< 0.01
24-JI0002034	DJ212921	AC233	LOC 3 - ACM STOCKPILE, ON NORTH-WEST BOUNDARY TO P14 CAR PARK	8:05	14:59	2.0	2.0	0/100	< 0.01
24-JI0002035	DJ212918	AC237	LOC 4 - BIRS PILING ZONE-ON SOUTHERN BOUNDARY	8:12	14:54	2.0	2.0	0/100	< 0.01
24-JI0002036	DJ212922	AC228	LOC 5 - LP4, VAC TRUCK NDD, ON NORTH-EAST BOUNDARY	8:14	14:52	2.0	2.0	0/100	< 0.01
24-JI0002037	DJ212932	AC235	LOC 6 - BIRS PILING ZONE, ON SOUTH-EAST BOUNDARY	8:18	14:49	2.0	2.0	0/100	< 0.01
24-JI0002038	DJ212934	AC222	LOC 7 - NORTH BIRS ACM ZONE, ON NORTH-WEST BOUNDARY, ADJ CHILDCARE CENTRE	8:22	14:42	2.0	2.0	0/100	< 0.01
24-JI0002039	DJ212919	AC243	LOC 8 - NORTH BIRS ACM ZONE, ON NORTH-EAST BOUNDARY, ADJ CHILDCARE CENTRE	8:20	14:44	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-JI0002040	DJ212915	BLANK	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	Jul 01, 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 & 2780	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 (Focus) 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: Jul 1, 2024 3:51 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1113296	Due: Jul 1, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DJ212928	Jul 01, 2024	3:10PM	Air	S24-JI0002032	X
2	DJ212898	Jul 01, 2024	3:08PM	Air	S24-JI0002033	X
3	DJ212921	Jul 01, 2024	2:59PM	Air	S24-JI0002034	X
4	DJ212918	Jul 01, 2024	2:54PM	Air	S24-JI0002035	X
5	DJ212922	Jul 01, 2024	2:52PM	Air	S24-JI0002036	X
6	DJ212932	Jul 01, 2024	2:49PM	Air	S24-JI0002037	X
7	DJ212934	Jul 01, 2024	2:42PM	Air	S24-JI0002038	X
8	DJ212919	Jul 01, 2024	2:44PM	Air	S24-JI0002039	X
9	DJ212915	Jul 01, 2024		Air	S24-JI0002040	X
Test Counts						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. 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:

Sayeed Abu Senior Analyst-Asbestos

Authorised by:

Laxman Dias Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

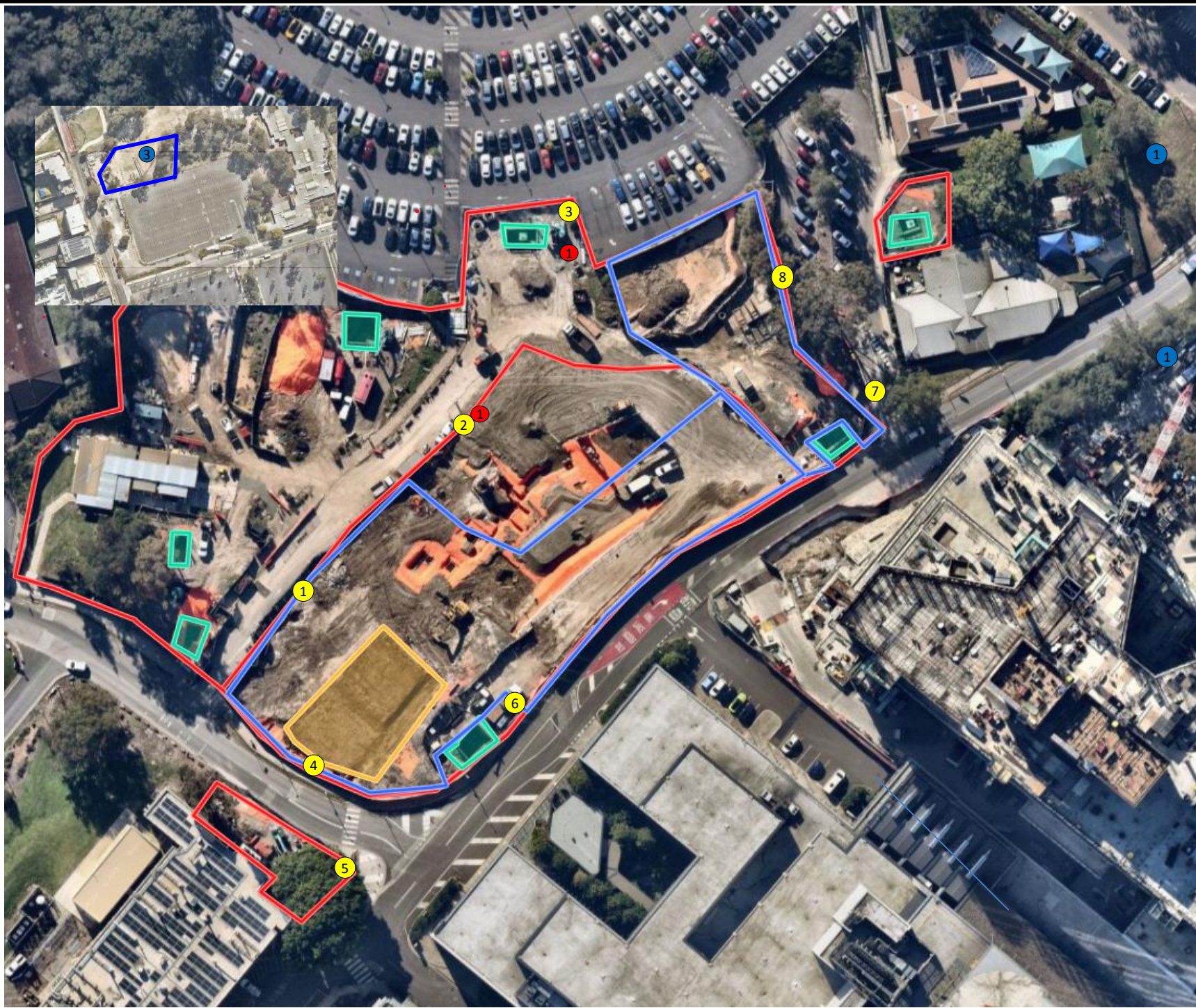
- Indicates Not Requested

* 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: 01/07/2024
Drawn By: MN	Checked By: KA



IMHC Westmead

FIGURE 1

3 July 2024

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

**AMR210: 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 **Tuesday 2 July 2024**. Daily sample locations are shown in, **Attachment 2**.

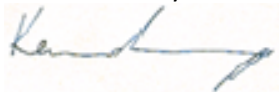
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

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 1113703-AFC
Project Name **IMHC WESTMEAD**
Project ID 65686
Received Date Jul 02, 2024
Date Reported Jul 03, 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 Jul 02, 2024
Report 1113703-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-JI0005135	DJ214010	AC222	LOC 1 - BIRS PILING ZONE-ON WESTERN BOUNDARY	7:35	14:20	2.0	2.0	0/100	< 0.01
24-JI0005136	DJ212923	AC241	LOC 2 - ACM STOCKPILE, ON NORTH-WEST BOUNDARY TO P14 CAR PARK	7:38	14:23	2.0	2.0	0/100	< 0.01
24-JI0005137	DJ212926	AC235	LOC 3 - BIRS PILING ZONE-ON SOUTHERN BOUNDARY	7:44	14:14	2.0	2.0	0/100	< 0.01
24-JI0005138	DJ212903	AC228	LOC 4 - LP4, VAC TRUCK NDD, DEWATERING ON NORTH-EAST BOUNDARY	7:47	14:16	2.0	2.0	0/100	< 0.01
24-JI0005139	DJ212937	AC221	LOC 5 - BIRS PILING ZONE, ON SOUTH-EAST BOUNDARY	7:49	14:18	2.0	2.0	0/100	< 0.01
24-JI0005140	DJ212907	AC244	LOC 6 - NORTH ACM ZONE, ON NORTH-EAST BOUNDARY, ADJ CHILDCARE CENTRE	7:53	14:00	2.0	2.0	0/100	< 0.01
24-JI0005141	DJ212935	AC236	LOC 7 - NORTH ACM ZONE, ON NORTH-WEST BOUNDARY, ADJ CHILDCARE CENTRE	7:55	14:02	2.0	2.0	0/100	< 0.01
24-JI0005142	DJ213247	BLANK	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	Jul 02, 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 & 2780	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	Perth ProMicro 46-48 Banksia Road Welshpool WA 6106 +61 8 6253 4444 NATA# 2561 Site# 2554
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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: Jul 2, 2024 3:30 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1113703	Due: Jul 2, 2024
Project Name: IMHC 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
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Sydney Laboratory - NATA # 1261 Site # 18217						X
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DJ214010	Jul 02, 2024	2:20PM	Air	S24-JI0005135	X
2	DJ212923	Jul 02, 2024	2:23PM	Air	S24-JI0005136	X
3	DJ212926	Jul 02, 2024	2:14PM	Air	S24-JI0005137	X
4	DJ212903	Jul 02, 2024	2:16PM	Air	S24-JI0005138	X
5	DJ212937	Jul 02, 2024	2:18PM	Air	S24-JI0005139	X
6	DJ212907	Jul 02, 2024	2:00PM	Air	S24-JI0005140	X
7	DJ212935	Jul 02, 2024	2:02PM	Air	S24-JI0005141	X
8	DJ213247	Jul 02, 2024		Air	S24-JI0005142	X
Test Counts						8

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.

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Units

% w/w:	Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples (% w/w)
F/flid	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	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Sayeed Abu Senior Analyst-Asbestos

Authorised by:

Chamath JHM Annakkage Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

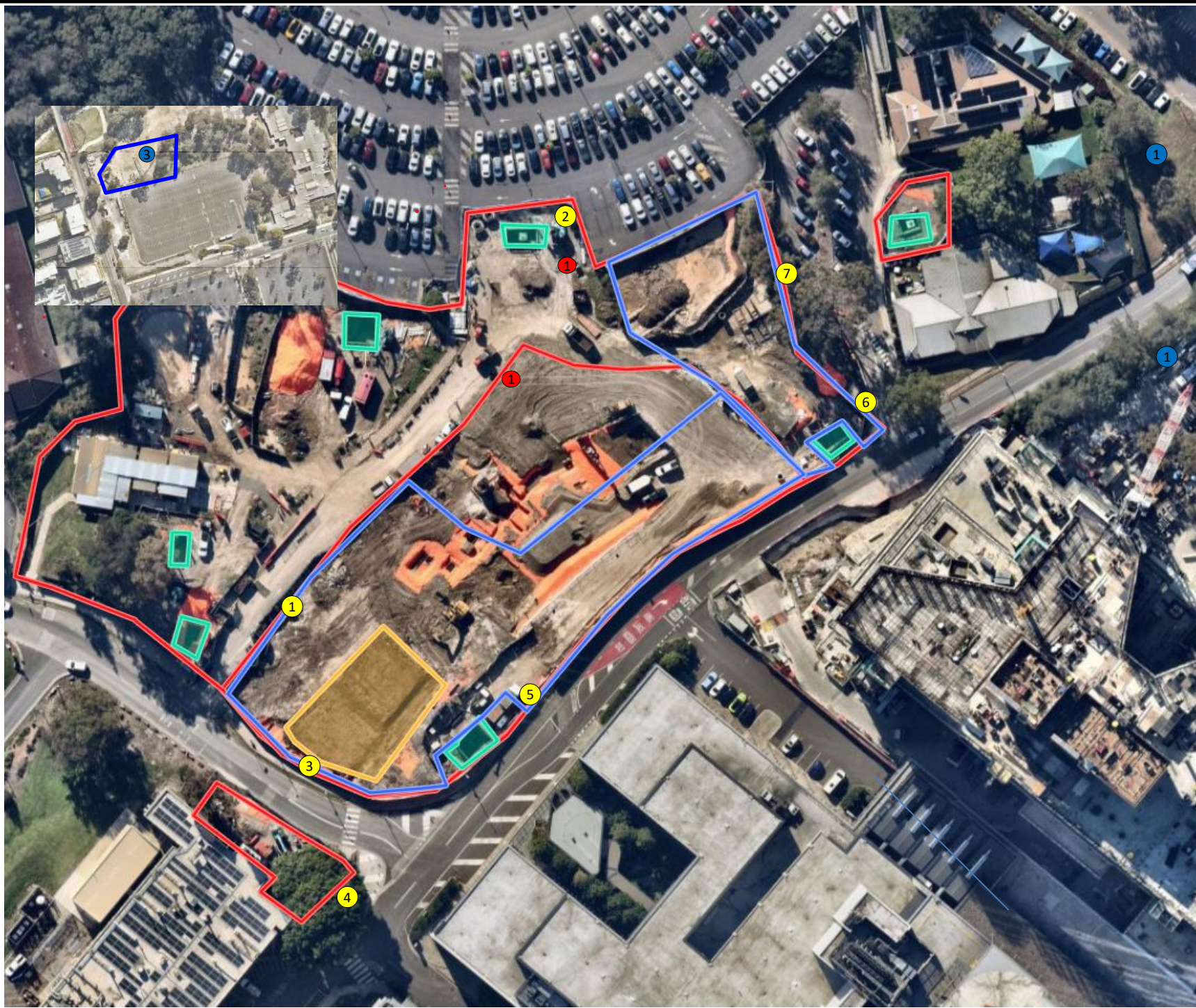
- Indicates Not Requested

* 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: 02/07/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

3 June 2024

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

**AMR211: 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 **Tuesday 2 July 2024**. Daily sample locations during BIRS Friable Pipe Insulation Removal 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 1113699-AFC
Project Name IMHC WESTMEAD - BIRS PIPE REMOVAL
Project ID 65686
Received Date Jul 02, 2024
Date Reported Jul 02, 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 - BIRS PIPE REMOVAL
Project ID 65686
Date Sampled Jul 02, 2024
Report 1113699-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-JI0005115	DJ213418	AC233	LOC 1 - ENCLOSURE 8-A, PIPE REMOVAL ON CLEAN END OF DECON UNIT (REMOTE)	7:16	14:20	2.0	2.0	0/100	< 0.01
24-JI0005116	DJ212930	AC237	LOC 2 - ENCLOSURE 8-A, PIPE REMOVAL AT NEGATIVE AIR EXHAUST	7:18	14:37	2.0	2.0	0/100	< 0.01
24-JI0005117	DJ212901	AC227	LOC 3 - ENCLOSURE 8-A, PIPE REMOVAL AT ENTRY TO DECON ZONE	7:20	14:40	2.0	2.0	0/100	< 0.01
24-JI0005118	DJ212933	BLANK	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	Jul 02, 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 & 2780	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 (Focus) 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: Jul 2, 2024 3:30 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1113699	Due: Jul 2, 2024
	Phone: 02 8245 0300	Priority: Same day
	Fax:	Contact Name: Milad Noujaim
Project Name: IMHC WESTMEAD - BIRS PIPE REMOVAL	Eurofins Analytical Services Manager : Andrew Black	
Project ID: 65686		

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	DJ213418	Jul 02, 2024	2:20PM	Air	S24-JI0005115	X
2	DJ212930	Jul 02, 2024	2:37PM	Air	S24-JI0005116	X
3	DJ212901	Jul 02, 2024	2:40PM	Air	S24-JI0005117	X
4	DJ212933	Jul 02, 2024		Air	S24-JI0005118	X
Test Counts						4

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:

Sayeed Abu Senior Analyst-Asbestos

Authorised by:

Laxman Dias Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

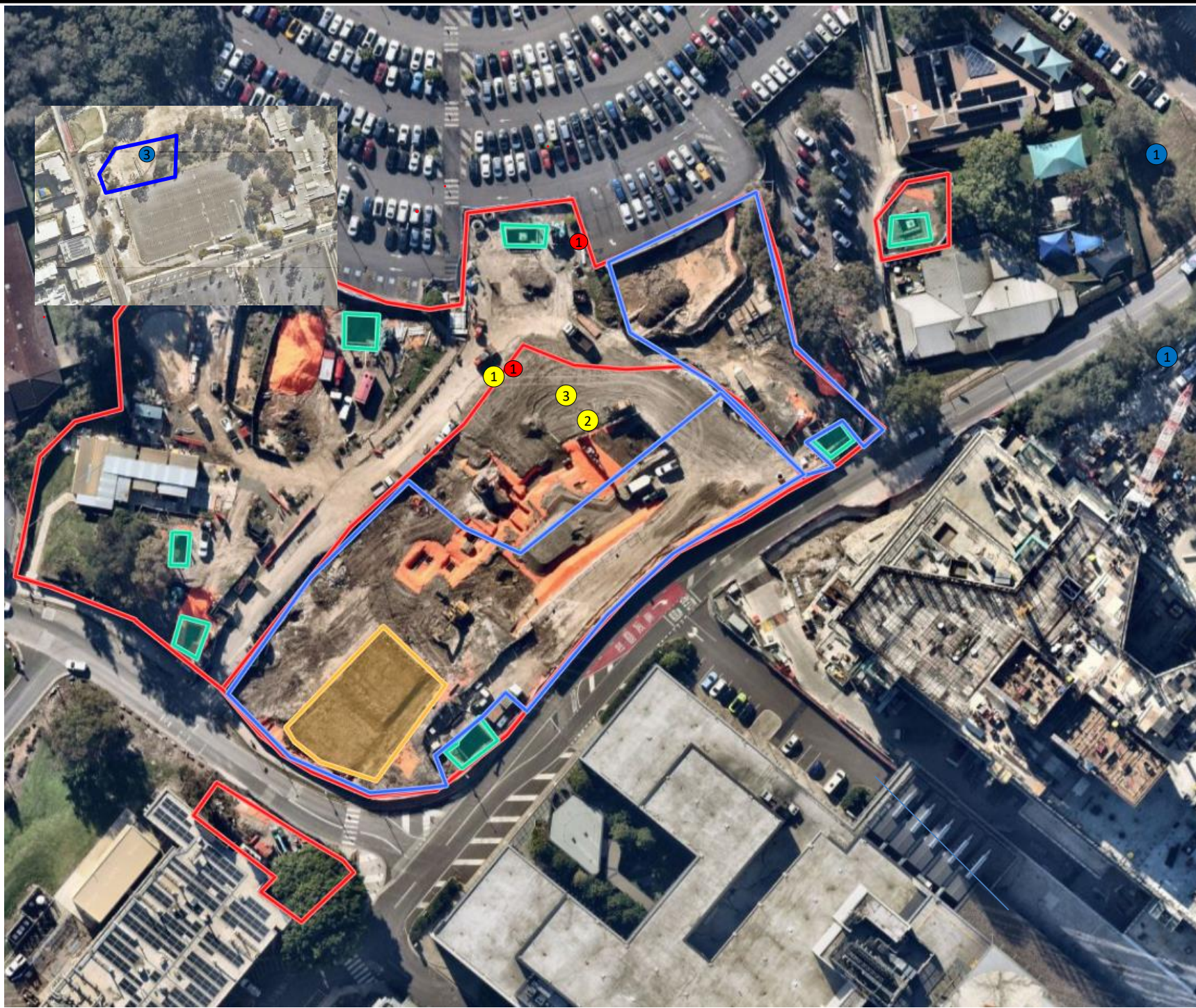
- Indicates Not Requested

* 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: 02/07/2024
Drawn By: MN	Checked By: KA



IMHC Westmead

FIGURE 1

3 July 2024

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

**AMR212: 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 **Tuesday 2 July 2024**. Enclosure clearance sample location 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 1113635-AFC
Project Name IMHC WESTMEAD ENCLOSURE 8_A CLEARANCE
Project ID 65686
Received Date Jul 02, 2024
Date Reported Jul 02, 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 ENCLOSURE 8_A CLEARANCE
Project ID 65686
Date Sampled Jul 02, 2024
Report 1113635-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-JI0004580	DJ213007	AC243	LOC 1 - ENCLOSURE 8-A, INSIDE ASBESTOS REMOVAL ENCLOSURE AS CLEARANCE	11:05	13:04	4.0	4.1	0/100	< 0.01
24-JI0004581	DJ212911	--	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	Jul 02, 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 & 2780	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 (Focus) 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: Jul 2, 2024 1:44 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1113635	Due: Jul 2, 2024
	Phone: 02 8245 0300	Priority: Same day
	Fax:	Contact Name: Milad Noujaim
Project Name: IMHC WESTMEAD ENCLOSURE 8_A CLEARANCE	Eurofins Analytical Services Manager : Andrew Black	
Project ID: 65686		

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	DJ213007	Jul 02, 2024	11:05AM	Air	S24-JI0004580	X
2	DJ212911	Jul 02, 2024		Air	S24-JI0004581	X
Test Counts						2

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:

Md Mozibur Rahman Senior Analyst-Asbestos

Authorised by:

Chamath JHM Annakkage Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

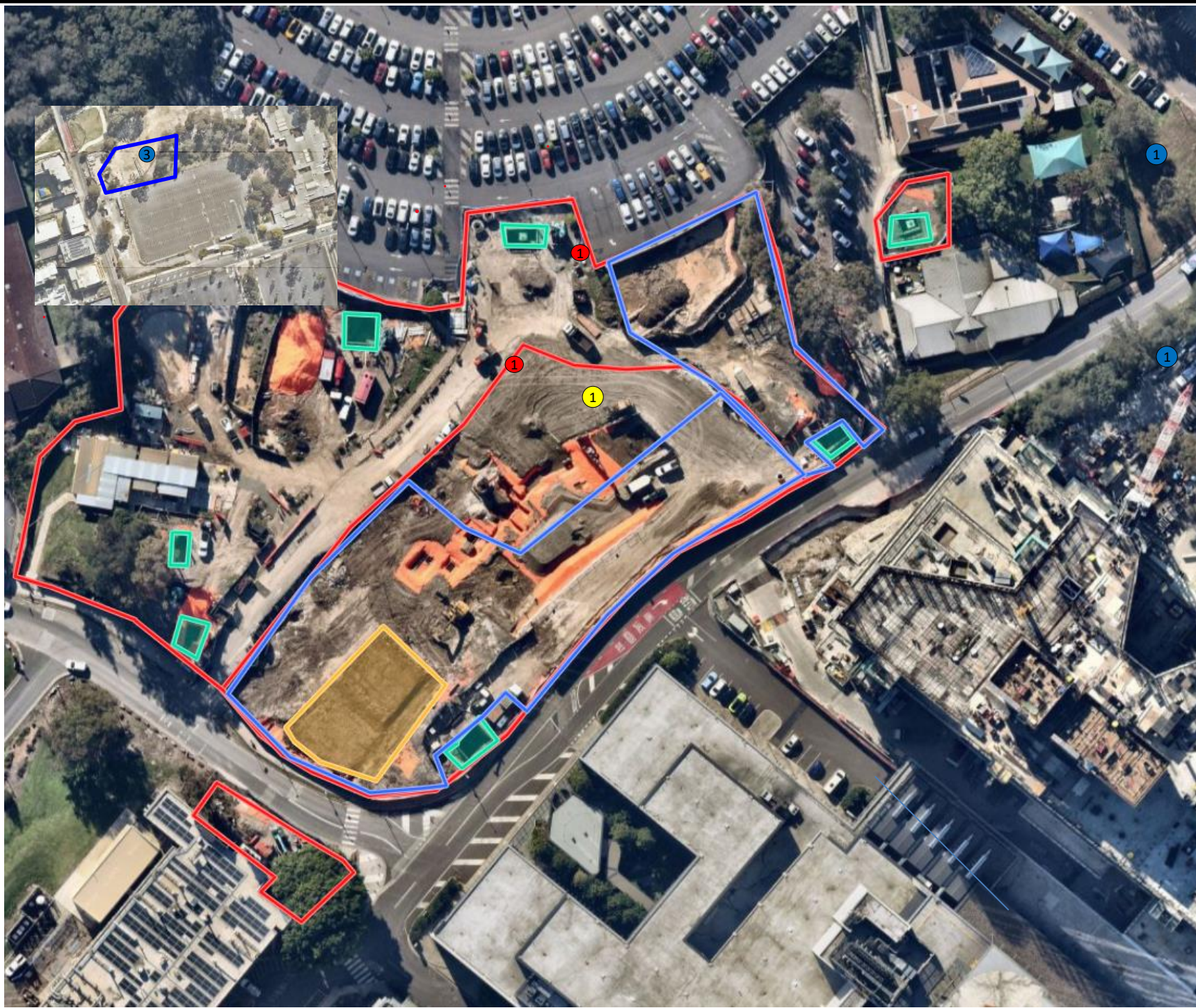
- Indicates Not Requested

* 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
 - Care Flight
 - Figure Inset- Holding Yard Contractor Carpark



Job No: 65686

Client: Cherrie Civil Engineering Pty Ltd

Version: Rev A	Date: 02/07/2024
Drawn By: MN	Checked By: KA



IMHC Westmead

FIGURE 1

4 July 2024

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

**AMR213: 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 3 July 2024**. Daily sample locations are shown in, **Attachment 2**.

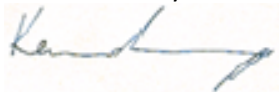
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

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 1114221-AFC
Project Name WESTMEAD
Project ID 65686
Received Date Jul 03, 2024
Date Reported Jul 03, 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 Jul 03, 2024
Report 1114221-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-JI0008928	DJ213249	AC236	LOC 1 - BIRSB NORTH ON FENCE ADJ TO P14	7:37	15:21	2.0	2.0	0/100	< 0.01
24-JI0008929	DJ213259	AC233	LOC 2 - BIRSB ADJACENT TO DECON UNIT	7:39	15:22	2.0	2.0	0/100	< 0.01
24-JI0008930	DJ213421	AC237	LOC 3 - BIRSB WEST ON FENCE ADJ TO P14	7:41	15:23	2.0	2.0	0/100	< 0.01
24-JI0008931	DJ213477	AC222	LOC 4 - BIRSB SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:44	15:25	2.0	2.0	0/100	< 0.01
24-JI0008932	DJ213020	AC227	LOC 5 - LP3, NORTH ON FENCE ADJ TO BIRSB	7:48	15:27	2.0	2.0	0/100	< 0.01
24-JI0008933	DJ213111	AC221	LOC 6 - ON FENCE ADJ TO CCC, REDBANK RD ACM ZONE SOUTH EAST	7:52	15:30	2.0	2.0	0/100	< 0.01
24-JI0008934	DJ213086	AC241	LOC 7 - ACM ZONE NORTH EAST ON FENCE ADJ TO CCC, CARPARK	7:57	15:34	2.0	2.0	0/100	< 0.01
24-JI0008935	DJ213473	BLANK	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	Jul 03, 2024	Indefinite

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	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Sayeed Abu 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: 03/07/2024
Drawn By: MN	Checked By: KA



IMHC Westmead

FIGURE 1

5 July 2024

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

**AMR214: 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 4 July 2024**. Daily sample locations are shown in, **Attachment 2**.

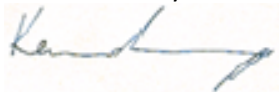
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

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 1114618-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 04, 2024
Date Reported Jul 05, 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 Jul 04, 2024
Report 1114618-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-JI0011626	DI966373	AC233	LOC 1- ACM STOCKPILE ADJ P14 CARPARK ON NORTH WEST BOUNDARY	7:31	13:25	2.0	2.0	0/100	< 0.01
24-JI0011627	DI966415	AC237	LOC 2- BRIS PILING ZONE, ON WESTERN BOUNDARY	7:33	13:22	2.0	2.0	0/100	< 0.01
24-JI0011628	DI966374	AC221	LOC 2- BRIS PILING ZONE, ON SOUTHERN BOUNDARY	7:48	13:19	2.0	2.0	0/100	< 0.01
24-JI0011629	DI966460	AC228	LOC 4- ACM NORTH ZONE, ON NORTH-WEST BOUNDARY ADJ, CCC	8:10	13:14	2.0	2.0	0/100	< 0.01
24-JI0011630	DI966357	AC244	LOC 5- BRIS PILING ZONE, ON SOUTH-EAST BOUNDARY	7:58	13:25	2.0	2.0	0/100	< 0.01
24-JI0011631	DI966431	AC234	LOC 6- LP4 PLUMBERS BACKHILL, ADJ GARDEN TREE REMOVAL WORKS	7:52	13:28	2.0	2.0	0/100	< 0.01
24-JI0011632	DI966416	AC235	LOC 7- ACM NORTH ZONE ADJ/ 2A, ON NORTH-EAST BOUNDARY, ADJ CCC	8:05	13:17	2.0	2.0	0/100	< 0.01
24-JI0011633	DI966462	BLANK	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	Jul 04, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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: Jul 4, 2024 3:02 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1114618	Due: Jul 5, 2024
Project Name: IMHC WESTMEAD	Phone: 02 8245 0300	Priority: Overnight
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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DI966373	Jul 04, 2024	1:25PM	Air	S24-JI0011626	X
2	DI966415	Jul 04, 2024	1:22PM	Air	S24-JI0011627	X
3	DI966374	Jul 04, 2024	1:19PM	Air	S24-JI0011628	X
4	DI966460	Jul 04, 2024	1:14PM	Air	S24-JI0011629	X
5	DI966357	Jul 04, 2024	1:25PM	Air	S24-JI0011630	X
6	DI966431	Jul 04, 2024	1:28PM	Air	S24-JI0011631	X
7	DI966416	Jul 04, 2024	1:17PM	Air	S24-JI0011632	X
8	DI966462	Jul 04, 2024		Air	S24-JI0011633	X
Test Counts						8

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

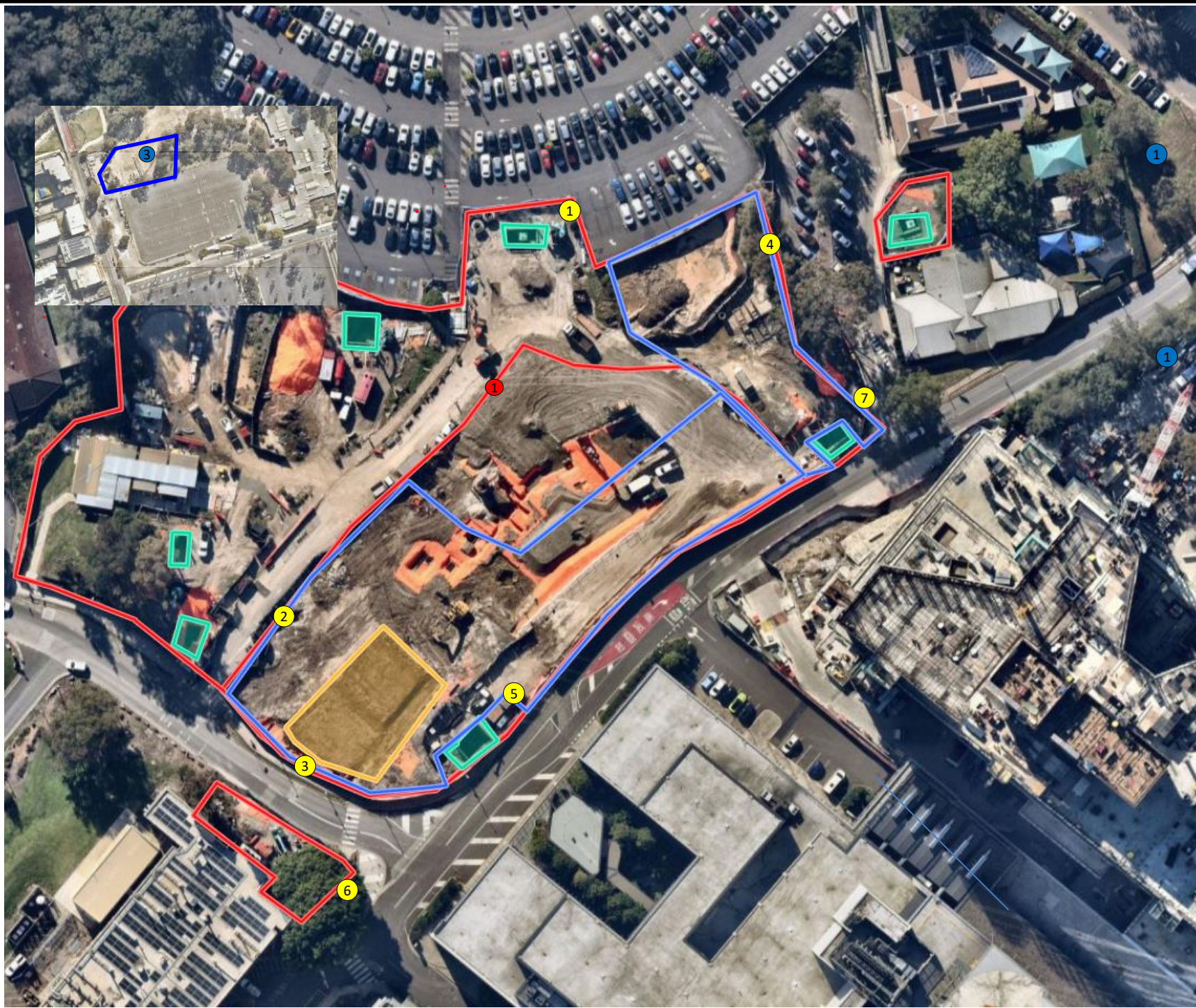
Asbestos Content (as asbestos):
$$\% w/w = \frac{(m \times P_A)}{M}$$

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}).

Attachment 2 – Daily Sample Locations



- Legend:**
- Approximate Site Boundary
 - Approximate Exclusion Zone
 - Asbestos Air Monitoring Pumps
 - Decontamination Unit
 - Childcare Centre
 - Care Flight
 - Figure Inset- Holding Yard Contractor Carpark



Job No: 65686	
Client: Cherrie Civil Engineering Pty Ltd	
Version: Rev A	Date: 04/07/2024
Drawn By: MN	Checked By: KA



IMHC Westmead

FIGURE 1

5 July 2024

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

**AMR215: 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 4 July 2024**. Daily sample locations during BIRS Friable Pipe Insulation Removal 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 1114608-AFC
Project Name IMHC WESTMEAD-8B PIPE REMOVAL
Project ID 65686
Received Date Jul 04, 2024
Date Reported Jul 05, 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-8B PIPE REMOVAL
Project ID 65686
Date Sampled Jul 04, 2024
Report 1114608-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-JI0011591	DI966342	AC236	LOC1- ENCLOSURE 8B REMOVAL, ADJ REG AIR UNIT EXHAUST	7:26	14:30	2.0	1.9	0/100	< 0.01
24-JI0011592	DI966367	AC227	LOC2- ENCLOSURE 8B REMOVAL, AT CLEAN END OS DECON ZONE	7:24	14:32	2.0	2.0	0/100	< 0.01
24-JI0011593	DI966603	AC222	LOC3- CLEAN AND OF REMOTR DECON UHNIT, ENCLOSURE 8B REMOVAL	7:29	14:01	2.0	2.0	0/100	< 0.01
24-JI0011594	DI966448	BLANK	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	Jul 04, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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: Jul 4, 2024 3:02 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1114608	Due: Jul 5, 2024
Project Name: IMHC WESTMEAD-8B PIPE REMOVAL	Phone: 02 8245 0300	Priority: Overnight
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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DI966342	Jul 04, 2024	2:30PM	Air	S24-JI0011591	X
2	DI966367	Jul 04, 2024	2:32PM	Air	S24-JI0011592	X
3	DI966603	Jul 04, 2024	2:01PM	Air	S24-JI0011593	X
4	DI966448	Jul 04, 2024		Air	S24-JI0011594	X
Test Counts						4

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:

Sayeed Abu Senior Analyst-Asbestos

Authorised by:

Bennel Jiri Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

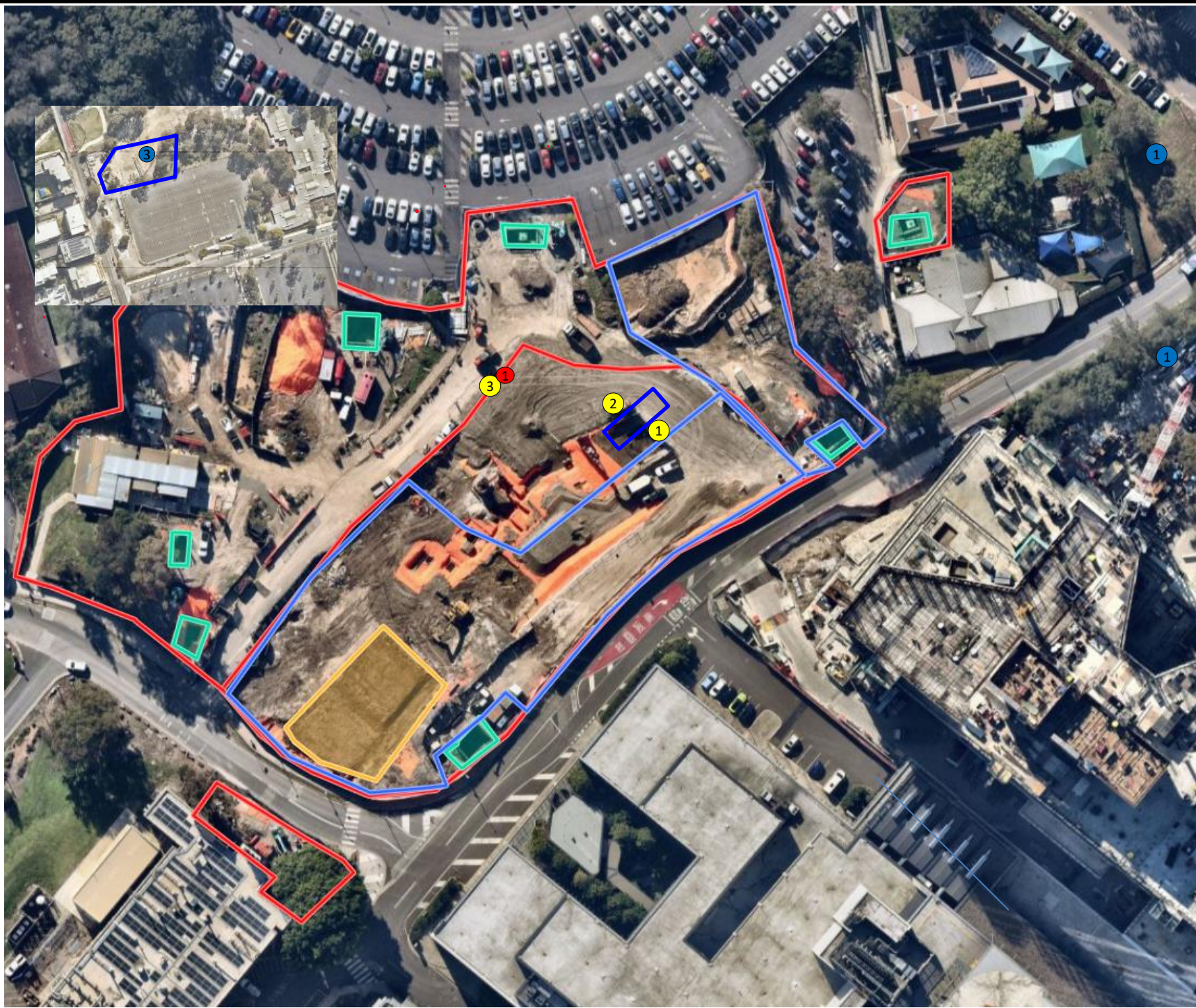
- Indicates Not Requested

* 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: 04/07/2024
Drawn By: MN	Checked By: KA



IMHC Westmead

FIGURE 1

5 July 2024

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

**AMR216: 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 4 July 2024**. Enclosure clearance sample location 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 1114515-AFC
Project Name IMHC WESTMEAD - ENCLOSURE 8B - CLEARANCE
Project ID 65686
Received Date Jul 04, 2024
Date Reported Jul 04, 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 - ENCLOSURE 8B - CLEARANCE
Project ID 65686
Date Sampled Jul 04, 2024
Report 1114515-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-JI0010995	DJ213235	--	BLANK	--	--	--	--	0/100	--
24-JI0010996	DJ213246	AC243	LOC1- INSIDE ENCLOSURE 8B AS CLEARANCE	10:00	12:22	4.0	4.0	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	Jul 04, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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 (Focus) 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: Jul 4, 2024 12:53 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1114515	Due: Jul 4, 2024
Project Name: IMHC WESTMEAD - ENCLOSURE 8B - CLEARANCE	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																					
External Laboratory																						
<table border="1"> <thead> <tr> <th>No</th> <th>Sample ID</th> <th>Sample Date</th> <th>Sampling Time</th> <th>Matrix</th> <th>LAB ID</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>DJ213235</td> <td>Jul 04, 2024</td> <td></td> <td>Air</td> <td>S24-JI0010995</td> <td style="text-align: center;">X</td> </tr> <tr> <td>2</td> <td>DJ213246</td> <td>Jul 04, 2024</td> <td>12:22PM</td> <td>Air</td> <td>S24-JI0010996</td> <td style="text-align: center;">X</td> </tr> </tbody> </table>	No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		1	DJ213235	Jul 04, 2024		Air	S24-JI0010995	X	2	DJ213246	Jul 04, 2024	12:22PM	Air	S24-JI0010996	X	
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID																	
1	DJ213235	Jul 04, 2024		Air	S24-JI0010995	X																
2	DJ213246	Jul 04, 2024	12:22PM	Air	S24-JI0010996	X																
Test Counts	2																					

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	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Laxman Dias Senior Analyst-Asbestos

Authorised by:

Chamath JHM Annakkage Senior Analyst-Asbestos



Glenn Jackson
Managing Director

Final Report – this report replaces any previously issued Report

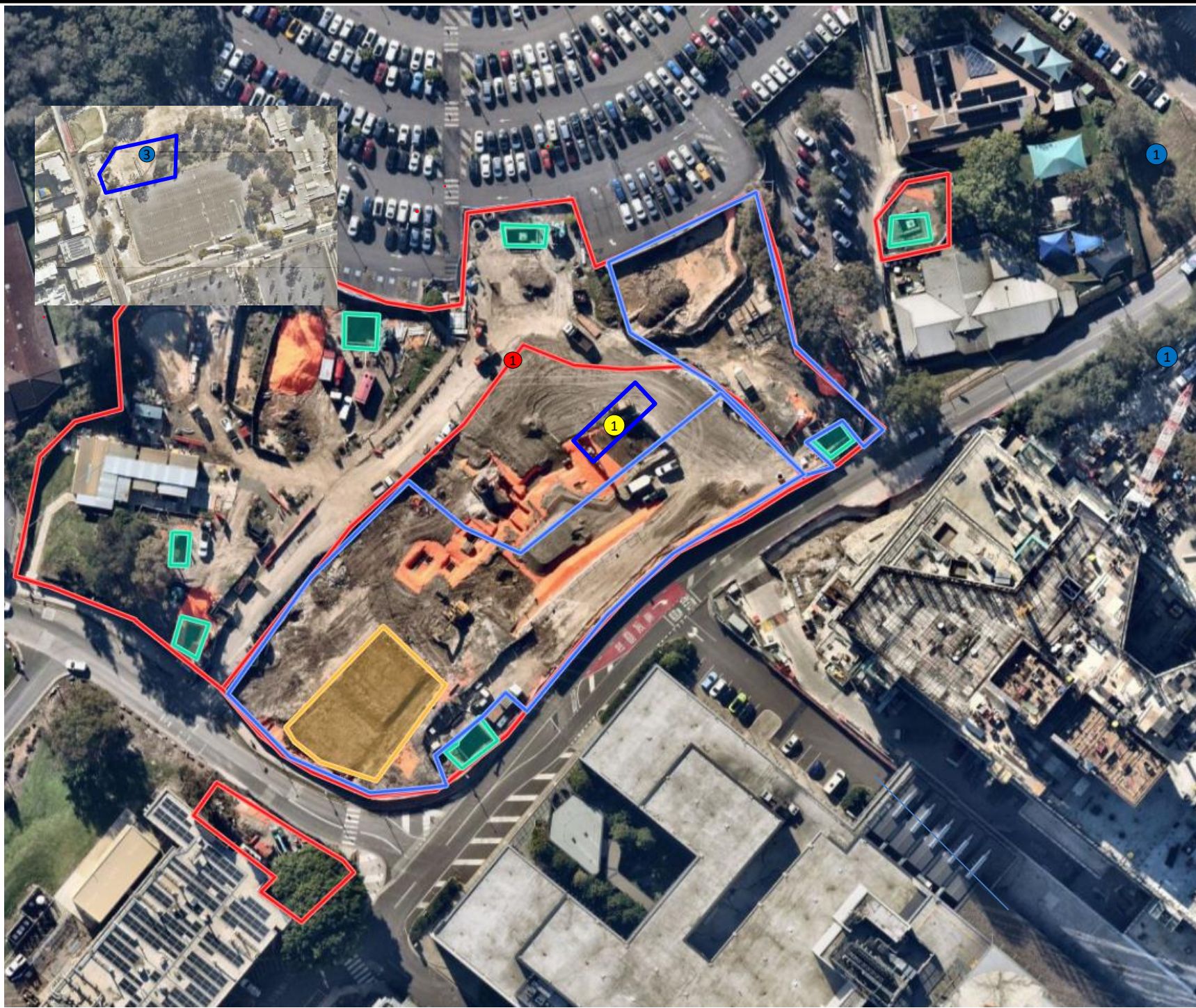
- Indicates Not Requested

* 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: 04/07/2024
Drawn By: MN	Checked By: KA



IMHC Westmead

FIGURE 1

8 July 2024

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

**AMR217: 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 5 July 2024**. Daily sample locations are shown in, **Attachment 2**.

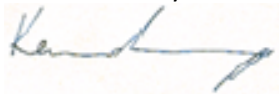
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

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 1115122-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 05, 2024
Date Reported Jul 05, 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 Jul 05, 2024
Report 1115122-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-JI0014910	DI966360	AC227	LOC 1: BIRSB NORTH EAST ON FENCE NEXT TO ENTRY GATE	7:31	15:21	2.0	2.0	0/100	< 0.01
24-JI0014911	DI966434	AC241	LOC 2: BIRSB NORTH ON FENCE ADJ TO DECON UNIT	7:33	15:23	2.0	2.0	0/100	< 0.01
24-JI0014912	DI966468	AC234	LOC 3: BIRSB WEST ON FENCE ADJ TO P14 CARPARK	7:35	15:25	2.0	2.0	2/100	< 0.01
24-JI0014913	DI966456	AC244	LOC 4: BIRSB SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:38	15:28	2.0	2.0	0/100	< 0.01
24-JI0014914	DI966472	AC235	LOC 5: LP3 NORTH EAST ON FENCE ADJ TO BIRSB	7:41	15:30	2.0	2.0	0/100	< 0.01
24-JI0014915	DI966435	AC236	LOC 6: ACM ZONE EAST ON FENCE ADJ TO CCC	7:44	15:33	2.0	2.0	0/100	< 0.01
24-JI0014916	DI966347	--	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	Jul 05, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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 #: 1115122
Phone: 02 8245 0300
Fax:

Received: Jul 5, 2024 3:55 PM
Due: Jul 5, 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	DI966360	Jul 05, 2024	3:21PM	Air	S24-JI0014910	X
2	DI966434	Jul 05, 2024	3:23PM	Air	S24-JI0014911	X
3	DI966468	Jul 05, 2024	3:25PM	Air	S24-JI0014912	X
4	DI966456	Jul 05, 2024	3:28PM	Air	S24-JI0014913	X
5	DI966472	Jul 05, 2024	3:30PM	Air	S24-JI0014914	X
6	DI966435	Jul 05, 2024	3:33PM	Air	S24-JI0014915	X
7	DI966347	Jul 05, 2024		Air	S24-JI0014916	X
Test Counts						7

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.
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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.
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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:

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](#).

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: 05/07/2024
Drawn By: MN	Checked By: KA



IMHC Westmead

FIGURE 1

9 July 2024

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

**AMR218: 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 July 2024**. Daily sample locations are shown in, **Attachment 2**.

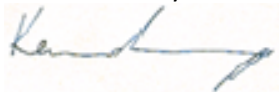
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling and analytical procedures.

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 1115549-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 08, 2024
Date Reported Jul 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 IMHC WESTMEAD
Project ID 65686
Date Sampled Jul 08, 2024
Report 1115549-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-JI0018568	DI966359	AC228	LOC 1 - BIRS PILING ZONE, ON WESTERN BOUNDARY	8:08	14:45	2.0	2.0	0/100	< 0.01
24-JI0018569	DI966445	AC234	LOC 2 - BIRS PILING ZONE, ON CLEAN END OF DECON UNIT	8:11	14:41	2.0	2.0	0/100	< 0.01
24-JI0018570	DI966417	AC235	LOC 3- ACM STOCKPILE, ON NORTH-WEST BOUNDARY, ADJ P14 CARPARK	8:13	14:39	2.0	2.0	2/100	< 0.01
24-JI0018571	DI966344	AC244	LOC 4 - BIRS PILING ZONE, ON CENTRE-WEST BOUNDARY	8:18	14:43	2.0	2.0	0/100	< 0.01
24-JI0018572	DI966352	AC236	LOC 5 - ADJ NEW COMPOUND, SIEVING CONCRETE SOIL MOVEMENTS	8:20	14:49	2.0	2.0	0/100	< 0.01
24-JI0018573	DI966349	AC241	LOC 6 - BIRS PILING ZONE, ON SOUTH-EAST BOUNDARY	8:34	14:53	2.0	2.0	0/100	< 0.01
24-JI0018574	DI966343	AC227	LOC 7 - NORTH ACM ZONE, ON NORTHERN BOUNDARY, ADJ CCC	8:36	13:12	2.0	2.0	0/100	< 0.01
24-JI0018575	DI966470	--	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	Jul 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 Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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 (Focus) 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 #: 1115549 Phone: 02 8245 0300 Fax:	Received: Jul 8, 2024 3:30 PM Due: Jul 8, 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																																																																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No</th> <th>Sample ID</th> <th>Sample Date</th> <th>Sampling Time</th> <th>Matrix</th> <th>LAB ID</th> <th></th> </tr> </thead> <tbody> <tr><td>1</td><td>DI966359</td><td>Jul 08, 2024</td><td>8:08AM</td><td>Air</td><td>S24-JI0018568</td><td style="text-align: center;">X</td></tr> <tr><td>2</td><td>DI966445</td><td>Jul 08, 2024</td><td>8:11AM</td><td>Air</td><td>S24-JI0018569</td><td style="text-align: center;">X</td></tr> <tr><td>3</td><td>DI966417</td><td>Jul 08, 2024</td><td>8:13AM</td><td>Air</td><td>S24-JI0018570</td><td style="text-align: center;">X</td></tr> <tr><td>4</td><td>DI966344</td><td>Jul 08, 2024</td><td>8:18AM</td><td>Air</td><td>S24-JI0018571</td><td style="text-align: center;">X</td></tr> <tr><td>5</td><td>DI966352</td><td>Jul 08, 2024</td><td>8:20AM</td><td>Air</td><td>S24-JI0018572</td><td style="text-align: center;">X</td></tr> <tr><td>6</td><td>DI966349</td><td>Jul 08, 2024</td><td>8:34AM</td><td>Air</td><td>S24-JI0018573</td><td style="text-align: center;">X</td></tr> <tr><td>7</td><td>DI966343</td><td>Jul 08, 2024</td><td>8:36AM</td><td>Air</td><td>S24-JI0018574</td><td style="text-align: center;">X</td></tr> <tr><td>8</td><td>DI966470</td><td>Jul 08, 2024</td><td></td><td>Air</td><td>S24-JI0018575</td><td style="text-align: center;">X</td></tr> </tbody> </table>	No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID		1	DI966359	Jul 08, 2024	8:08AM	Air	S24-JI0018568	X	2	DI966445	Jul 08, 2024	8:11AM	Air	S24-JI0018569	X	3	DI966417	Jul 08, 2024	8:13AM	Air	S24-JI0018570	X	4	DI966344	Jul 08, 2024	8:18AM	Air	S24-JI0018571	X	5	DI966352	Jul 08, 2024	8:20AM	Air	S24-JI0018572	X	6	DI966349	Jul 08, 2024	8:34AM	Air	S24-JI0018573	X	7	DI966343	Jul 08, 2024	8:36AM	Air	S24-JI0018574	X	8	DI966470	Jul 08, 2024		Air	S24-JI0018575	X	
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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.
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Comments

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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

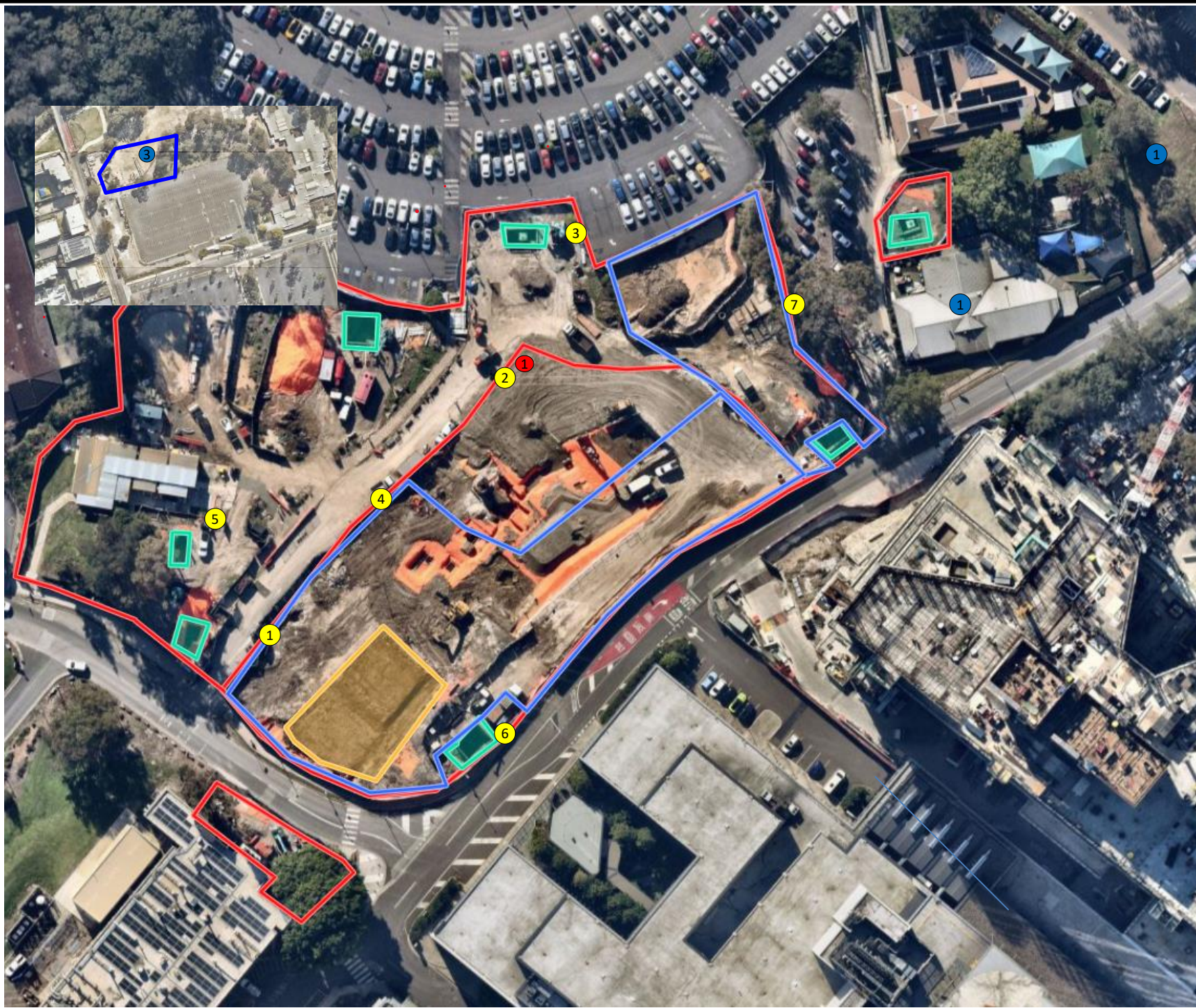
- Indicates Not Requested

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

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

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: 08/07/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

JBS&G (65686 - 160,912)

AMR219 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

10 July 2024

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

**AMR219: 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 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 **Tuesday 9 July 2024**. Daily sample locations are shown in, **Attachment 2**.

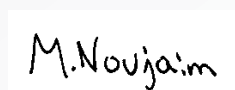
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1116056-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 09, 2024
Date Reported Jul 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.

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 Jul 09, 2024
Report 1116056-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-JI0022719	DI465725	AC236	LOC1: BIRSB, NORTH ON FENCE ADJ TO PLY	7:24	15:15	2.0	2.0	0/100	< 0.01
24-JI0022720	DI465755	AC228	LOC2: BIRSB, WEST ON FENCE ADJ TO PLY	7:26	15:17	2.0	2.0	0/100	< 0.01
24-JI0022721	DI465712	AC241	LOC3: BIRSB, WEST ON FENCE ADJ TO LP8 & PLY	7:28	15:19	2.0	2.0	0/100	< 0.01
24-JI0022722	DI465714	AC244	LOC4: BIRSB, SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:30	15:21	2.0	2.0	0/100	< 0.01
24-JI0022723	DI465699	AC235	LOC5: LP3, NORTH ON FENCE ADJ TO BIRSB	7:32	15:24	2.0	2.0	0/100	< 0.01
24-JI0022724	DI465680	AC234	LOC6: ACM ZONE, SE ON FENCE ADJ TO CCC & RED BOND RD	7:35	15:27	2.0	2.0	0/100	< 0.01
24-JI0022725	DI465691	AC227	LOC7: ACM ZONE, EAST ON FENCE ADJ TO CCC & CARPARK	7:36	15:28	2.0	2.0	0/100	< 0.01
24-JI0022726	DI465692	BLANK	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	Jul 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 Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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 (Focus) 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
---	--	--	--

 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 #: 1116056
Phone: 02 8245 0300
Fax:

Received: Jul 9, 2024 4:45 PM
Due: Jul 9, 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	DI465725	Jul 09, 2024	7:24AM	Air	S24-JI0022719	X
2	DI465755	Jul 09, 2024	7:26AM	Air	S24-JI0022720	X
3	DI465712	Jul 09, 2024	7:28AM	Air	S24-JI0022721	X
4	DI465714	Jul 09, 2024	7:30AM	Air	S24-JI0022722	X
5	DI465699	Jul 09, 2024	7:32AM	Air	S24-JI0022723	X
6	DI465680	Jul 09, 2024	7:35AM	Air	S24-JI0022724	X
7	DI465691	Jul 09, 2024	7:36AM	Air	S24-JI0022725	X
8	DI465692	Jul 09, 2024		Air	S24-JI0022726	X
Test Counts						8

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:

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](#).

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.

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: 09/07/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

JBS&G (65686 - 160,913)

AMR220 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

11 July 2024

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

**AMR220: 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 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 July 2024**. Daily sample locations are shown in, **Attachment 2**.

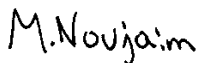
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1116502-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 10, 2024
Date Reported Jul 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 IMHC WESTMEAD
Project ID 65686
Date Sampled Jul 10, 2024
Report 1116502-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-JI0025705	DI465689	AC222	LOC 1: BIRSB NORTH ON FENCE ADJ TO P14	7:15	15:01	2.0	2.0	0/100	< 0.01
24-JI0025706	DI465702	AC233	LOC 2: BIRSB WEST ON FENCE ADJ TO P14	7:17	15:03	2.0	2.0	0/100	< 0.01
24-JI0025707	DI466190	--	BLANK	--	--	--	--	0/100	--
24-JI0025708	DI465724	AC234	LOC 3: BIRSB WEST ON FENCE ADJ TO LP8 & P14	7:19	15:05	2.0	2.0	0/100	< 0.01
24-JI0025709	DI466181	AC236	LOC 7: ACM ZONE, EAST ON FENCE ADJ TO CCC & CARPARK	7:31	15:20	2.0	2.0	0/100	< 0.01
24-JI0025710	DI465707	AC221	LOC 4: BIRSB, SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:23	15:09	2.0	2.0	2/100	< 0.01
24-JI0025711	DI465782	AC235	LOC 6: ACM ZONE, SOUTH EAST ON FENCE ADJ TO REDBANK RD & CCC	7:29	15:18	2.0	2.0	0/100	< 0.01
24-JI0025712	DI465758	AC241	LOC 5: LP3, SOUTH ON FENCE ADJ TO REDBANK RD	7:26	15:13	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	Jul 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 Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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: Jul 10, 2024 4:31 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1116502	Due: Jul 10, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DI465689	Jul 10, 2024	3:01PM	Air	S24-JI0025705	X
2	DI465702	Jul 10, 2024	3:03PM	Air	S24-JI0025706	X
3	DI466190	Jul 10, 2024		Air	S24-JI0025707	X
4	DI465724	Jul 10, 2024	3:05PM	Air	S24-JI0025708	X
5	DI466181	Jul 10, 2024	3:20PM	Air	S24-JI0025709	X
6	DI465707	Jul 10, 2024	3:09PM	Air	S24-JI0025710	X
7	DI465782	Jul 10, 2024	3:18PM	Air	S24-JI0025711	X
8	DI465758	Jul 10, 2024	3:13PM	Air	S24-JI0025712	X
Test Counts						8

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).

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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.
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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:

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

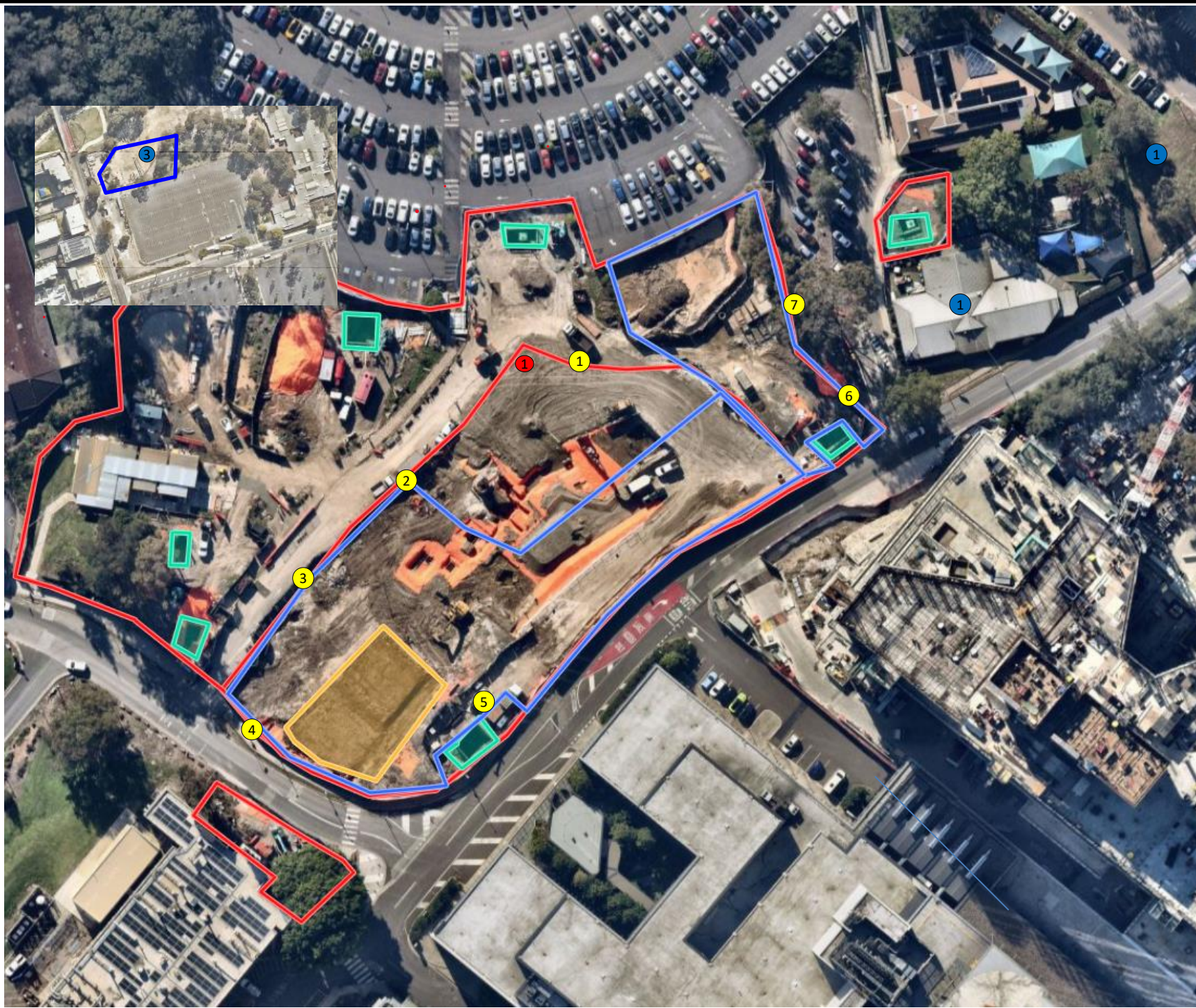
- Indicates Not Requested

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

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

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.

2 Daily Sample Locations



Legend:

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



Job No: 65686

Client: Cherrie Civil Engineering Pty Ltd

Version: Rev A

Date: 10/07/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

JBS&G (65686 - 160,914)

AMR221 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

12 July 2024

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

**AMR221: 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 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 July 2024**. Daily sample locations are shown in, **Attachment 2**.

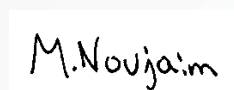
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1116975-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 11, 2024
Date Reported Jul 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 IMHC WESTMEAD
Project ID 65686
Date Sampled Jul 11, 2024
Report 1116975-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-JI0029098	DI466159	AC227	LOC 1: BIRSB NORTH ON FENCE ADJ TO P14	7:08	15:03	2.0	2.0	0/100	< 0.01
24-JI0029099	DI465716	AC244	LOC 2: BIRSB WEST ON FENCE ADJ TO P14	7:10	15:05	2.0	2.0	0/100	< 0.01
24-JI0029100	DI465711	AC228	LOC 3: BIRSB WEST ON FENCE ADJ TO LP8 & P14	7:12	15:07	2.0	2.0	0/100	< 0.01
24-JI0029101	DI465722	AC243	LOC 4: BIRSB, SOUTH ON FENCE ADJ TO CCC & CARPARK	7:14	15:10	2.0	2.0	4/100	< 0.01
24-JI0029102	DI465701	AC237	LOC 5: LP3, SOUTH ON FENCE ADJ TO REDBANK RD	7:17	15:13	2.0	2.0	0/100	< 0.01
24-JI0029103	DI465695	--	BLANK	--	--	--	--	0/100	--
24-JI0029104	DI465734	AC235	LOC 6: ACM ZONE SE ON FENCE ADJ TO REDBANK RD & CCC	7:20	15:17	2.0	2.0	0/100	< 0.01
24-JI0029105	DI465747	AC236	LOC 7: ACM ZONE EAST ON FENCE ADJ TO CCC & CARPARK	7:23	15:18	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	Jul 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 Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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 (Focus) 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: Jul 11, 2024 5:00 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1116975	Due: Jul 11, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DI466159	Jul 11, 2024	7:08AM	Air	S24-JI0029098	X
2	DI465716	Jul 11, 2024	7:10AM	Air	S24-JI0029099	X
3	DI465711	Jul 11, 2024	7:12AM	Air	S24-JI0029100	X
4	DI465722	Jul 11, 2024	7:14AM	Air	S24-JI0029101	X
5	DI465701	Jul 11, 2024	7:17AM	Air	S24-JI0029102	X
6	DI465695	Jul 11, 2024		Air	S24-JI0029103	X
7	DI465734	Jul 11, 2024	7:21AM	Air	S24-JI0029104	X
8	DI465747	Jul 11, 2024	7:23AM	Air	S24-JI0029105	X
Test Counts						8

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):
$$\%_{WA} = \frac{\sum (m \times P_A) \times x}{x}$$

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:

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

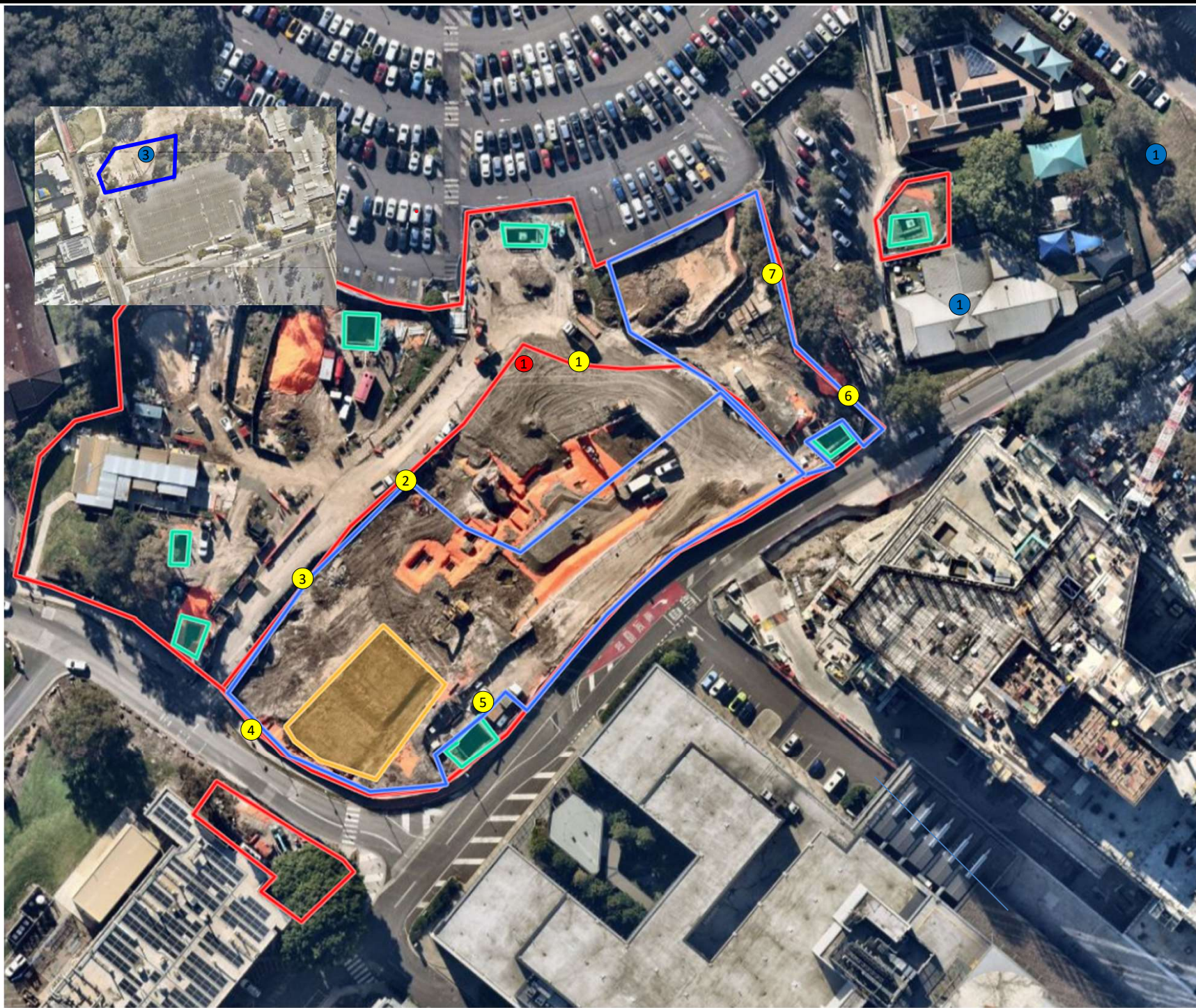
- Indicates Not Requested

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

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

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.

2 Daily Sample Locations



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



Job No: 65686	
Client: Cherrie Civil Engineering Pty Ltd	
Version: Rev A	Date: 11/07/2024
Drawn By: MN	Checked By: KA



IMHC Westmead

FIGURE 1

JBS&G (65686 - 160,915)

AMR222 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

15 July 2024

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

**AMR222: 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 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 July 2024**. Daily sample locations are shown in, **Attachment 2**.

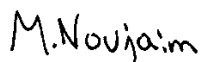
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1117462-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 12, 2024
Date Reported Jul 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 Jul 12, 2024
Report 1117462-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-JI0032636	DI465728	AC244	LOC 1: BIRSB, NORTH ON FENCE ADJ TO P14	7:07	15:02	2.0	2.0	0/100	< 0.01
24-JI0032637	DI465720	AC236	LOC 2: BIRSB, WEST ON FENCE ADJ TO P14	7:09	15:04	2.0	2.0	0/100	< 0.01
24-JI0032638	DI465721	AC228	LOC 3: BIRSB, WEST ON FENCE ADJ TO LP8 & P14	7:11	15:07	2.0	2.0	0/100	< 0.01
24-JI0032639	DI465727	AC243	LOC 4: BIRSB, SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:14	15:10	2.0	2.0	0/100	< 0.01
24-JI0032640	DI465868	AC227	LOC 5: LP3, SOUTH ON FENCE ADJ TO REDBANK RD	7:17	15:13	2.0	2.0	0/100	< 0.01
24-JI0032641	DI465759	AC237	LOC 6: ACM ZONE, SE ON FENCE ADJ TO REDBANK RD & CCC	7:20	15:15	2.0	2.0	0/100	< 0.01
24-JI0032642	DI465717	AC221	LOC 7: ACM ZONE, EAST ON FENCE ADJ TO CCC & CARPARK	7:21	15:17	2.0	2.0	0/100	< 0.01
24-JI0032643	DI465733	--	BLANK	--	--	--	--	0/100	--

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-JI0032644	DI465751	AC234	LOC 8: MAIN COMPOUND ACM ZONE, SE ON FENCE	7:25	15:21	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	Jul 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
---	--	--	--	---	--

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 (Focus) 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
---	--	--	--

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: JBS & G Australia (NSW) P/L	Order No.:	Received: Jul 12, 2024 4:26 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1117462	Due: Jul 12, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DI465728	Jul 12, 2024	7:07AM	Air	S24-JI0032636	X
2	DI465720	Jul 12, 2024	7:09AM	Air	S24-JI0032637	X
3	DI465721	Jul 12, 2024	7:11AM	Air	S24-JI0032638	X
4	DI465727	Jul 12, 2024	7:14AM	Air	S24-JI0032639	X
5	DI465868	Jul 12, 2024	7:17AM	Air	S24-JI0032640	X
6	DI465759	Jul 12, 2024	7:17AM	Air	S24-JI0032641	X
7	DI465717	Jul 12, 2024	7:20AM	Air	S24-JI0032642	X
8	DI465733	Jul 12, 2024	7:21AM	Air	S24-JI0032643	X
9	DI465751	Jul 12, 2024		Air	S24-JI0032644	X
Test Counts						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. 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:

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](#).

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.

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: 12/07/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

JBS&G (65686 - 160,944)

AMR223 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

15 July 2024

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

**AMR223: 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 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 July 2024**. Daily sample locations during BIRS Friable Pipe Insulation Removal are shown in, **Attachment 2**.

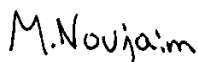
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1117453-AFC
Project Name IMHC WESTMEAD PIPE REMOVAL
Project ID 65686
Received Date Jul 12, 2024
Date Reported Jul 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 PIPE REMOVAL
Project ID 65686
Date Sampled Jul 12, 2024
Report 1117453-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-JI0032558	DI966420	AC241	LOC1: ENCLOSURE 8, ADJ TO NEG AIR	7:42	13:14	2.0	2.0	0/100	< 0.01
24-JI0032559	DI966428	AC222	LOC2: ENCLOSURE 9, ADJ TO ACCESS TO ENCLOSURE	7:43	13:17	2.0	2.0	0/100	< 0.01
24-JI0032560	DI966414	AC233	LOC3: ENCLOSURE 9, SOUTH ON FENCE	7:44	13:18	2.0	2.0	0/100	< 0.01
24-JI0032561	DI966446	BLANK	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	Jul 12, 2024	Indefinite

Melbourne	Geelong	Sydney	Canberra	Brisbane	Newcastle
6 Monterey Road Dandenong South VIC 3175 +61 3 8564 5000 NATA# 1261 Site# 1254	19/8 Lewalan Street Grovedale VIC 3216 +61 3 8564 5000 NATA# 1261 Site# 25403	179 Magowar Road Girraween NSW 2145 +61 2 9900 8400 NATA# 1261 Site# 18217	Unit 1,2 Dacre Street Mitchell ACT 2911 +61 2 6113 8091 NATA# 1261 Site# 25466	1/21 Smallwood Place Murarrie QLD 4172 T: +61 7 3902 4600 NATA# 1261 Site# 20794 & 2780	1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079

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	Auckland (Focus)	Christchurch	Tauranga
35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Unit C1/4 Pacific Rise, Mount Wellington, Auckland 1061 +64 9 525 0568 IANZ# 1308	43 Detroit Drive Rolleston, Christchurch 7675 +64 3 343 5201 IANZ# 1290	1277 Cameron Road, Gate Pa, Tauranga 3112 +64 9 525 0568 IANZ# 1402

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name:	JBS & G Australia (NSW) P/L	Order No.:		Received:	Jul 12, 2024 4:26 PM
Address:	Level 1, 50 Margaret St Sydney NSW 2000	Report #:	1117453	Due:	Jul 12, 2024
Project Name:	IMHC WESTMEAD PIPE REMOVAL	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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DI966420	Jul 12, 2024	7:42AM	Air	S24-JI0032558	X
2	DI966428	Jul 12, 2024	7:43AM	Air	S24-JI0032559	X
3	DI966414	Jul 12, 2024	7:44AM	Air	S24-JI0032560	X
4	DI966446	Jul 12, 2024		Air	S24-JI0032561	X
Test Counts						4

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 : 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:

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](#).

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.

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: 12/07/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

JBS&G (65686 - 160,976)

AMR224 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

15 July 2024

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

**AMR224: 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 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 July 2024**. Enclosure clearance sample location is shown in, **Attachment 2**.

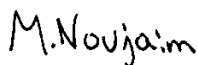
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1117257-AFC
Project Name IMHC WESTMEAD PIPE CLEARANCE
Project ID 65686
Received Date Jul 12, 2024
Date Reported Jul 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 PIPE CLEARANCE
Project ID 65686
Date Sampled Jul 12, 2024
Report 1117257-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-JI0031319	DI465703	AC235	ENCLOSURE 9, PIPE REMOVAL CLEARANCE	10:25	12:43	4.0	4.0	0/100	< 0.01
24-JI0031320	DI465743	--	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	Jul 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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 (Focus) 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: Jul 12, 2024 12:30 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1117257	Due: Jul 12, 2024
	Phone: 02 8245 0300	Priority: Same day
	Fax:	Contact Name: Milad Noujaim
Project Name: IMHC WESTMEAD PIPE CLEARANCE	Eurofins Analytical Services Manager : Andrew Black	
Project ID: 65686		

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	DI465703	Jul 12, 2024	10:25AM	Air	S24-JI0031319		X
2	DI465743	Jul 12, 2024		Air	S24-JI0031320	X	
Test Counts						2	

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:

Md Mozibur Rahman 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.

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: 12/07/2024

Drawn By: MN

Checked By: KA



IMHC Westmead

FIGURE 1

JBS&G (65686 - 161,209)

AMR230 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

23 July 2024

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

**AMR230: 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 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 22 July 2024**. Daily sample locations are shown in, **Attachment 2**.

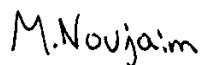
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1120209-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 22, 2024
Date Reported Jul 22, 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 Jul 21, 2024
Report 1120209-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-JI0053628	DJ289009	AC228	LOC1: BIRSB, NORTH ON FENCE, ADJ TO [14 &LP6	7:11	15:03	2.0	2.0	0/100	< 0.01
24-JI0053629	DJ289160	AC234	LOC2: BIRSB, WEST ON FENCE ADJ TO P14	7:13	15:05	2.0	2.0	0/100	< 0.01
24-JI0053630	DJ289030	AC237	LOC3: BIRSB, SW ON FENCE ADJ TO P14 & LP8	7:14	15:07	2.0	2.0	0/100	< 0.01
24-JI0053631	DJ289053	AC244	LOC4: BIRSB, SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:17	15:10	2.0	2.0	0/100	< 0.01
24-JI0053632	DJ289058	AC243	LOC5: LP3, SOUTH ON FENCE ADJ TO REDBOND RD	7:19	15:12	2.0	2.0	0/100	< 0.01
24-JI0053633	DJ289013	AC222	LOC6: ACM ZONE, SE ON FENCE ADJ TO CCC & REDBOND RD	7:21	15:16	2.0	2.0	0/100	< 0.01
24-JI0053634	DJ289040	AC227	LOC7: ACM ZONE, EAST ON FENCE ADJ CCC & COSPATH	7:22	15:19	2.0	2.0	0/100	< 0.01
24-JI0053635	DJ289029	BLANK	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	Jul 22, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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 #: 1120209
Phone: 02 8245 0300
Fax:

Received: Jul 22, 2024 4:31 PM
Due: Jul 22, 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	DJ289009	Jul 21, 2024	7:11AM	Air	S24-JI0053628	X
2	DJ289160	Jul 21, 2024	7:13AM	Air	S24-JI0053629	X
3	DJ289030	Jul 21, 2024	7:14AM	Air	S24-JI0053630	X
4	DJ289053	Jul 21, 2024	7:17AM	Air	S24-JI0053631	X
5	DJ289058	Jul 21, 2024	7:19AM	Air	S24-JI0053632	X
6	DJ289013	Jul 21, 2024	7:21AM	Air	S24-JI0053633	X
7	DJ289040	Jul 21, 2024	7:22AM	Air	S24-JI0053634	X
8	DJ289029	Jul 21, 2024		Air	S24-JI0053635	X
Test Counts						8

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:

Sayeed Abu Senior Analyst-Asbestos

Authorised by:

Bennel Jiri 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.

2 Daily Sample Locations



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



Job No: 65686

Client: Cherrie Civil Engineering Pty Ltd

Version: Rev A	Date: 22/07/2024
Drawn By: MN	Checked By: MB



IMHC Westmead

FIGURE 1

JBS&G (65686 - 161,227)

AMR231 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

24 July 2024

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

**AMR231: 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 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 **Tuesday 23 July 2024**. Daily sample locations are shown in, **Attachment 2**.

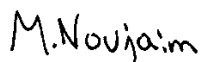
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1120612-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 23, 2024
Date Reported Jul 23, 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 Jul 23, 2024
Report 1120612-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-JI0057619	DJ198641	AC244	LOC 1: BIRSB, NORTH ON FENCE ADJ TO P14 & LP6	7:05	15:03	2.0	2.0	0/100	< 0.01
24-JI0057620	DJ198637	AC227	LOC 2: BIRSB, WEST ON FENCE ADJ TO P14	7:06	15:04	2.0	2.0	0/100	< 0.01
24-JI0057621	DJ198651	AC243	LOC 3: BIRSB, SW ON FENCE ADJ TO P14 & LP8	7:08	15:05	2.0	2.0	0/100	< 0.01
24-JI0057622	DJ198654	AC228	LOC 4: BIRSB, SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:10	15:07	2.0	2.0	0/100	< 0.01
24-JI0057623	DJ198634	AC237	LOC 5: LP3, SOUTH ON FENCE ADJ TO REDBANK RD	7:12	15:09	2.0	2.0	0/100	< 0.01
24-JI0057624	DJ198629	AC234	LOC 7: LP3, SW ON FENCE ADJ TO REDBANK RD & DRAGONFLY DRIVE	7:13	15:12	2.0	2.0	0/100	< 0.01
24-JI0057625	DJ198631	AC222	LOC 6: ACM ZONE, EAST ON FENCE ADJ TO CCC	7:16	15:14	2.0	2.0	0/100	< 0.01
24-JI0057626	DJ198623	--	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	Jul 23, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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 (Focus) 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: Jul 23, 2024 4:16 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1120612	Due: Jul 23, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DJ198641	Jul 23, 2024	7:05AM	Air	S24-JI0057619	X
2	DJ198637	Jul 23, 2024	7:06AM	Air	S24-JI0057620	X
3	DJ198651	Jul 23, 2024	7:08AM	Air	S24-JI0057621	X
4	DJ198654	Jul 23, 2024	7:10AM	Air	S24-JI0057622	X
5	DJ198634	Jul 23, 2024	7:12AM	Air	S24-JI0057623	X
6	DJ198629	Jul 23, 2024	7:13AM	Air	S24-JI0057624	X
7	DJ198631	Jul 23, 2024	7:16AM	Air	S24-JI0057625	X
8	DJ198623	Jul 23, 2024		Air	S24-JI0057626	X
Test Counts						8

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): $\%_{WA} = \frac{\sum (m \times P_A)}{x}$

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 NOUAJIM, 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](#).

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.

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: 23/07/2024
Drawn By: MN	Checked By: MB



IMHC Westmead

FIGURE 1

JBS&G (65686 - 161,228)

AMR232 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

25 July 2024

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

**AMR232: 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 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 24 July 2024**. Daily sample locations are shown in, **Attachment 2**.

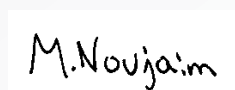
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1121078-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 24, 2024
Date Reported Jul 24, 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 Jul 24, 2024
Report 1121078-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-JI0061360	DJ198621	AC244	LOC 1: BIRSB, NORTH ON THE FENCE ADJ TO LP5 & P14	7:10	15:06	2.0	2.0	0/100	< 0.01
24-JI0061361	DJ198638	AC243	LOC 2: BIRSB, WEST ON THE FENCE ADJ TO P14	7:12	15:08	2.0	2.0	0/100	< 0.01
24-JI0061362	DJ198611	AC227	LOC 3: BIRSB, SW ON THE FENCE ADJ P14 & LP8	7:14	15:10	2.0	2.0	0/100	< 0.01
24-JI0061363	DJ198625	AC234	LOC 4: BIRSB, SOUTH ON THE FENCE ADJ TO DRAGONFLY DRIVE	7:16	15:12	2.0	2.0	0/100	< 0.01
24-JI0061364	DJ198626	AC228	LOC 5: LP3, SOUTH ON FENCE ADJ TO REDBANK RD	7:18	15:15	2.0	2.0	0/100	< 0.01
24-JI0061365	DJ198644	AC222	LOC 6: ACM ZONE, EAST ON FENCE ADJ TO CCC	7:21	15:19	2.0	2.0	0/100	< 0.01
24-JI0061366	DJ198620	AC237	LOC 7: LP3, SW ON FENCE @ INTERSECTION OF DRAGONFLY DR & REDBANK RD	7:24	15:23	2.0	2.0	0/100	< 0.01
24-JI0061367	DJ198632	BLANK	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	Jul 24, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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: Jul 24, 2024 4:30 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1121078	Due: Jul 24, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DJ198621	Jul 24, 2024	7:10AM	Air	S24-JI0061360	X
2	DJ198638	Jul 24, 2024	7:12AM	Air	S24-JI0061361	X
3	DJ198611	Jul 24, 2024	7:14AM	Air	S24-JI0061362	X
4	DJ198625	Jul 24, 2024	7:16AM	Air	S24-JI0061363	X
5	DJ198626	Jul 24, 2024	7:18AM	Air	S24-JI0061364	X
6	DJ198644	Jul 24, 2024	7:21AM	Air	S24-JI0061365	X
7	DJ198620	Jul 24, 2024	7:24AM	Air	S24-JI0061366	X
8	DJ198632	Jul 24, 2024		Air	S24-JI0061367	X
Test Counts						8

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): $\%_{WA} = \frac{\sum (m \times P_A) \times x}{x}$

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:

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](#).

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.

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: 24/07/2024
 Drawn By: MN Checked By: MB



IMHC Westmead

FIGURE 1

JBS&G (65686 - 161,229)

AMR233 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

26 July 2024

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

**AMR233: 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 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 25 July 2024**. Daily sample locations are shown in, **Attachment 2**.

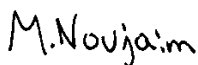
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1121590-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 25, 2024
Date Reported Jul 25, 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 Jul 25, 2024
Report 1121590-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-JI0065138	DJ198619	AC227	LOC 1: BIRSB, NORTH ON FENCE ADJ TO LP6 & P14	7:09	15:03	2.0	2.0	0/100	< 0.01
24-JI0065139	DJ198639	AC222	LOC 2: BIRSB, WEST ON FENCE ADJ TO P14	7:11	15:05	2.0	2.0	0/100	< 0.01
24-JI0065140	DJ198613	AC234	LOC 3: BIRSB, SW ON FENCE ADJ TO LP8 & P14	7:13	15:06	2.0	2.0	0/100	< 0.01
24-JI0065141	DJ198610	AC237	LOC 4: BIRSB SOUTH ON FENCE ALONG DRAGONFLY DRIVE	7:15	15:09	2.0	2.0	0/100	< 0.01
24-JI0065142	DJ198658	AC244	LOC 5: LP3, SOUTH ON FENCE ADJ TO REDBANK RD	7:18	15:11	2.0	2.0	0/100	< 0.01
24-JI0065143	DJ198617	AC228	LOC 6: BIRSB ACM ZONE, EAST ON FENCE ADJ TO CCC	7:21	15:14	2.0	2.0	0/100	< 0.01
24-JI0065144	DJ198635	--	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	Jul 25, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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 #: 1121590
Phone: 02 8245 0300
Fax:

Received: Jul 25, 2024 4:15 PM
Due: Jul 25, 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	DJ198619	Jul 25, 2024	7:09AM	Air	S24-JI0065138	X
2	DJ198639	Jul 25, 2024	7:11AM	Air	S24-JI0065139	X
3	DJ198613	Jul 25, 2024	7:13AM	Air	S24-JI0065140	X
4	DJ198610	Jul 25, 2024	7:15AM	Air	S24-JI0065141	X
5	DJ198658	Jul 25, 2024	7:18AM	Air	S24-JI0065142	X
6	DJ198617	Jul 25, 2024	7:21AM	Air	S24-JI0065143	X
7	DJ198635	Jul 25, 2024		Air	S24-JI0065144	X
Test Counts						7

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 NOUAJIM, 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](#).

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.

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: 25/07/2024

Drawn By: MN

Checked By: MB



IMHC Westmead

FIGURE 1

JBS&G (65686 - 161,230)

AMR234 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

29 July 2024

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

**AMR234: 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 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 26 July 2024**. Daily sample locations are shown in, **Attachment 2**.

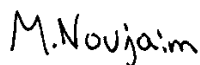
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1122107-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 26, 2024
Date Reported Jul 26, 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 Jul 26, 2024
Report 1122107-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-JI0069389	DJ198642	AC227	LOC 1: BIRSB, NORTH ON FENCE ADJ TO LP6 & P14	7:09	14:01	2.0	2.0	0/100	< 0.01
24-JI0069390	DJ198627	AC237	LOC 2: BIRSB, WEST ON FENCE ADJ TO P14	7:10	14:03	2.0	2.0	0/100	< 0.01
24-JI0069391	DJ198608	AC228	LOC 3: BIRSB, SW ON FENCE ADJ TO LP8 & P14	7:12	14:05	2.0	2.0	0/100	< 0.01
24-JI0069392	DJ198609	AC244	LOC 4: BIRSB, SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:15	14:07	2.0	2.0	0/100	< 0.01
24-JI0069393	DJ198645	AC222	LOC 5: LP3, SOUTH ON FENCE ADJ TO REDBANK RD	7:18	14:10	2.0	2.0	0/100	< 0.01
24-JI0069394	DJ198647	AC234	LOC 6: ACM ZONE, EAST ON FENCE ADJ TO CCC	7:21	14:13	2.0	2.0	0/100	< 0.01
24-JI0069395	DJ198615	BLANK	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	Jul 26, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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: Jul 26, 2024 4:36 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1122107	Due: Jul 26, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DJ198642	Jul 26, 2024	7:09AM	Air	S24-JI0069389	X
2	DJ198627	Jul 26, 2024	7:10AM	Air	S24-JI0069390	X
3	DJ198608	Jul 26, 2024	7:12AM	Air	S24-JI0069391	X
4	DJ198609	Jul 26, 2024	7:15AM	Air	S24-JI0069392	X
5	DJ198645	Jul 26, 2024	7:18AM	Air	S24-JI0069393	X
6	DJ198647	Jul 26, 2024	7:21AM	Air	S24-JI0069394	X
7	DJ198615	Jul 26, 2024		Air	S24-JI0069395	X
Test Counts						7

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:

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](#).

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.

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: 2/07/2024
Drawn By: MN	Checked By: MB



IMHC Westmead

FIGURE 1

JBS&G (65686 - 161,231)

AMR235 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

30 July 2024

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

**AMR235: 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 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 29 July 2024**. Daily sample locations are shown in, **Attachment 2**.

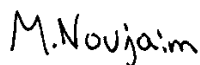
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air Monitoring Results

2 Daily Sample Locations

JBS&G (65686 - 161,231)

AMR235 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev A)

30 July 2024

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

**AMR235: 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 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 29 July 2024**. Daily sample locations are shown in, **Attachment 2**.

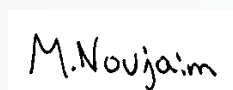
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1122614-AFC
Project Name **IMHC WESTMEAD**
Project ID 65686
Received Date Jul 29, 2024
Date Reported Jul 29, 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 Jul 29, 2024
Report 1122614-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-JI0073966	DJ198606	AC243	LOC 1: BIRSB, NORTH ON FENCE ADJ TO P14 & LP6	7:10	15:03	2.0	2.0	0/100	< 0.01
24-JI0073967	DJ198649	AC222	LOC 2: BIRSB, SW ON FENCE ADJ TO P14	7:12	15:05	2.0	2.0	0/100	< 0.01
24-JI0073968	DJ198630	AC227	LOC 3: BIRSB, WEST ON FENCE ADJ TO LP8 & P14	7:14	15:07	2.0	2.0	0/100	< 0.01
24-JI0073969	DJ198612	AC234	LOC 4: BIRSB, SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:17	15:10	2.0	2.0	0/100	< 0.01
24-JI0073970	DJ198624	AC228	LOC 5: LP3, SOUTH ON FENCE ADJ TO REDBANK RD	7:20	15:13	2.0	2.0	0/100	< 0.01
24-JI0073971	DJ198618	AC244	LOC 8: ACM ZONE EAST ON FENCE ADJ TO CCC	7:23	15:16	2.0	2.0	0/100	< 0.01
24-JI0073972	DJ198640	BLANK	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	Jul 29, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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: Jul 29, 2024 4:20 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1122614	Due: Jul 29, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DJ198606	Jul 29, 2024	3:03PM	Air	S24-JI0073966	X
2	DJ198649	Jul 29, 2024	3:05PM	Air	S24-JI0073967	X
3	DJ198630	Jul 29, 2024	3:07PM	Air	S24-JI0073968	X
4	DJ198612	Jul 29, 2024	3:10PM	Air	S24-JI0073969	X
5	DJ198624	Jul 29, 2024	3:13PM	Air	S24-JI0073970	X
6	DJ198618	Jul 29, 2024	3:16PM	Air	S24-JI0073971	X
7	DJ198640	Not Provided		Air	S24-JI0073972	X
Test Counts						7

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	N/A
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Asbestos Counter/Identifier:

Sayeed Abu 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.

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: 29/07/2024
Drawn By: MN	Checked By: MB



IMHC Westmead

FIGURE 1

JBS&G (65686 - 161,232)

AMR236 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

31 July 2024

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

**AMR236: 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 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 **Tuesday 30 July 2024**. Daily sample locations are shown in, **Attachment 2**.

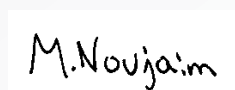
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1123032-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 30, 2024
Date Reported Jul 30, 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 Jul 30, 2024
Report 1123032-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-JI0077146	DJ198656	AC222	LOC1: BIRSB, NORTH ON FEFNCE, ADJ TO P14 \$ LP6	7:10	14:59	2.0	2.0	0/100	< 0.01
24-JI0077147	DJ198622	AC243	LOC2: BIRSB, WEST ON FENCE ADJ TO P14	7:12	15:01	2.0	2.0	0/100	< 0.01
24-JI0077148	DJ198655	AC227	LOC3: BIRSB, SW ON FENCE ADJ TO LP8 & P13	7:14	15:03	2.0	2.0	0/100	< 0.01
24-JI0077149	DJ198652	AC228	LOC4: BIRSB, SOUTH ON FENCE ADJ TO DRAGONFLY DRIVE	7:17	15:10	2.0	2.0	0/100	< 0.01
24-JI0077150	DJ198614	AC234	LOC5: LP3, SOUTH ON FENCE ADJ TO REDBONH RD	7:20	15:05	2.0	2.0	0/100	< 0.01
24-JI0077151	DJ198628	AC244	LOC6: ACM LANE, ADJ TO CCC & CARPARK EAST	7:23	15:07	2.0	2.0	0/100	< 0.01
24-JI0077152	DJ198650	AC233	LOC7: LP7, SW ON FENCE ADJ TO SHEDS	7:27	15:12	2.0	2.0	0/100	< 0.01
24-JI0077153	DJ198653	AC237	LOC8: LP7, EAST ON FENCE ADJ TO P14 & LP6	7:29	15:15	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-JI0077154	DJ198633	BLANK	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	Jul 30, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
---	--	--	--	---	--

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 (Focus) 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
---	--	--	--

web: www.eurofins.com.au
email: EnviroSales@eurofins.com

Company Name: JBS & G Australia (NSW) P/L	Order No.:	Received: Jul 30, 2024 4:20 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1123032	Due: Jul 30, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DJ198656	Jul 30, 2024	2:59PM	Air	S24-JI0077146	X
2	DJ198622	Jul 30, 2024	3:01PM	Air	S24-JI0077147	X
3	DJ198655	Jul 30, 2024	3:03PM	Air	S24-JI0077148	X
4	DJ198652	Jul 30, 2024	3:10PM	Air	S24-JI0077149	X
5	DJ198614	Jul 30, 2024	3:05PM	Air	S24-JI0077150	X
6	DJ198628	Jul 30, 2024	3:07PM	Air	S24-JI0077151	X
7	DJ198650	Jul 30, 2024	3:12PM	Air	S24-JI0077152	X
8	DJ198653	Jul 30, 2024	3:15PM	Air	S24-JI0077153	X
9	DJ198633	Jul 30, 2024		Air	S24-JI0077154	X
Test Counts						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. 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
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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).
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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:

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](#).

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.

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: 30/07/2024
Drawn By: MN	Checked By: MB



IMHC Westmead

FIGURE 1

JBS&G (65686 - 161,426)

AMR237 Airborne Asbestos Fibre Monitoring Report, Westmead IMHC (Rev 0)

1 August 2024

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

**AMR237: 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 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 31 July 2024**. Daily sample locations are shown in, **Attachment 2**.

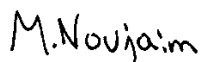
All air monitoring was completed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003(2005)], with NATA certification applying to all sample collection, handling, and analytical procedures.

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 email mnoujaim@jbsg.com.au.

Yours sincerely:



Milad Noujaim
Environmental Consultant
SafeWork NSW Licensed Asbestos Assessor (LAA 002002)
JBS&G Australia Pty Ltd

1 Asbestos Air 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 1123495-AFC
Project Name IMHC WESTMEAD
Project ID 65686
Received Date Jul 31, 2024
Date Reported Jul 31, 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 Jul 31, 2024
Report 1123495-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-JI0080015	DJ289229	AC228	LOC1: BIRSB, NORTH ON FENCE ADJ TO P14 & LP6	7:08	15:05	2.0	2.0	0/100	< 0.01
24-JI0080016	DJ288488	AC222	LOC2: BIRSB, WEST ON FENCE ADJ TO P14	7:12	15:10	2.0	2.0	0/100	< 0.01
24-JI0080017	DJ288489	AC237	LOC3: BIRSB, SOUTH WEST ON FENCE ADJ TO LP8 & P14	7:14	15:12	2.0	2.0	0/100	< 0.01
24-JI0080018	DJ288521	AC227	LOC4: BIRSB, SOUTH ON FENCE ADJ TO DRAGONFLY DR	7:16	15:16	2.0	2.0	0/100	< 0.01
24-JI0080019	DJ288487	AC244	LOC5: LP3, SOUTH ON FENCE ADJ TO REDBOUND RD	7:18	15:19	2.0	2.0	0/100	< 0.01
24-JI0080020	DJ288501	AC233	LOC6: ALM ZONE, ADJ TO CCC & CARPARK EAST	7:21	15:21	2.0	2.0	0/100	< 0.01
24-JI0080021	DJ288479	AC234	LOC7: LP7, SW ON FENCE ADJ TO SHEDS	7:26	15:23	2.0	2.0	0/100	< 0.01
24-JI0080022	DJ288483	AC243	LOC8: LP7, EAST ON FENCE ADJ TO P14 & LP6	7:11	15:08	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-JI0080023	DJ289236	BLANK	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	Jul 31, 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 & 2780	Newcastle 1/2 Frost Drive Mayfield West NSW 2304 +61 2 4968 8448 NATA# 1261 Site# 25079
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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
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Auckland 35 O'Rorke Road Penrose, Auckland 1061 +64 9 526 4551 IANZ# 1327	Auckland (Focus) 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: Jul 31, 2024 4:35 PM
Address: Level 1, 50 Margaret St Sydney NSW 2000	Report #: 1123495	Due: Jul 31, 2024
Project Name: IMHC 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
External Laboratory						
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID	
1	DJ289229	Jul 31, 2024	7:08AM	Air	S24-JI0080015	X
2	DJ288488	Jul 31, 2024	7:12AM	Air	S24-JI0080016	X
3	DJ288489	Jul 31, 2024	7:14AM	Air	S24-JI0080017	X
4	DJ288521	Jul 31, 2024	7:16AM	Air	S24-JI0080018	X
5	DJ288487	Jul 31, 2024	7:18AM	Air	S24-JI0080019	X
6	DJ288501	Jul 31, 2024	7:21AM	Air	S24-JI0080020	X
7	DJ288479	Jul 31, 2024	7:26AM	Air	S24-JI0080021	X
8	DJ288483	Jul 31, 2024	7:11AM	Air	S24-JI0080022	X
9	DJ289236	Jul 31, 2024		Air	S24-JI0080023	X
Test Counts						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. 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 : DAVID EDWARDS-DAVIS, 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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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: 31/07/2024
Drawn By: MN	Checked By: MB



IMHC Westmead

FIGURE 1