

Sydney Environmental Group Pty Ltd
Unit 63/45 Huntley St
Alexandria
NSW 2015



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: Steven Wallace
Report 923486-AFC
Project Name CORAL SEA PARK
Project ID 1203
Received Date Sep 14, 2022
Date Reported Sep 14, 2022

METHODOLOGY:

Asbestos Sampling Sampling as per the National Occupational Health & Safety Commission – Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)] and the NATA Specific Accreditation Criteria, ISO/IEC 17025 Application Document Life Sciences – Annex, Asbestos sampling and testing, Issued: March 2021.

Pump Calibration Air sampling pump performance has been assessed in accordance with Australian Institute of Occupational Hygiene (AIOH) Technical Paper Air Sampling Pumps: Equipment Calibration Requirements. Pump flow rate measurement equipment (e.g. Field Rotameter) has been calibrated in accordance with AIOH Technical Paper Flow Measurement Equipment: Calibration Requirements.

Asbestos Counting Fibre counting is conducted in accordance with the National Occupational Health & Safety Commission Guidance Note on the Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition , [NOHSC:3003(2005)] (MFM) and supplementary work instruction in-house LTM-ASB-8010. Unless specifically noted, analysis is undertaken by approved analysts at the base facility. Fibre counts (Fibres/fields) are covered by the facility's NATA scope of accreditation. The requirements of the NATA Specific Accreditation Criteria, ISO/IEC 17025 Application Document Life Sciences – Annex, Asbestos sampling and testing, Issued: March 2021 are realised.

Project Name CORAL SEA PARK
Project ID 1203
Date Sampled Sep 14, 2022
Report 923486-AFC

| Eurofins Sample No. | Client Sample ID | Pump ID | Location | Start (time) | End (time) | Start Flow Rate (L/min) | End Flow Rate (L/min) | Result (Fibres/Fields) | Result (Fibres/mL) |
|---------------------|------------------|---------|----------|--------------|------------|-------------------------|-----------------------|------------------------|--------------------|
| 22-Se0030967 | CY474455 | 89788 | AM01 | 7:07 | 15:10 | 1.0 | 1.0 | 0/100 | < 0.01 |
| 22-Se0030968 | CY474363 | 92402 | AM02 | 7:08 | 15:11 | 1.0 | 1.0 | 0/100 | < 0.01 |
| 22-Se0030969 | CY474605 | 90778 | AM03 | 7:09 | 15:12 | 1.0 | 1.0 | 0/100 | < 0.01 |
| 22-Se0030970 | CY474447 | -- | 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 | Sep 14, 2022 | Indefinite |

Melbourne

 6 Monterey Road
 Dandenong South
 VIC 3175
 Tel: +61 3 8564 5000
 NATA# 1261 Site# 1254

Geelong

 19/8 Lewalan Street
 Grovedale
 VIC 3216
 Tel: +61 3 8564 5000
 NATA# 1261 Site# 1254

Sydney

 179 Magowar Road
 Girraween
 NSW 2145
 Tel: +61 2 9900 8400
 NATA# 1261 Site# 18217

Canberra

 Unit 1,2 Dacre Street
 Mitchell
 ACT 2911
 Tel: +61 2 6113 8091

Brisbane

 1/21 Smallwood Place
 Murarrie
 QLD 4172
 Tel: +61 7 3902 4600
 NATA# 1261 Site# 20794

Newcastle

 4/52 Industrial Drive
 Mayfield East NSW 2304
 PO Box 60 Wickham 2293
 Tel: +61 2 4968 8448
 NATA# 1261 Site# 25079

Perth

 46-48 Banksia Road
 Welshpool
 WA 6106
 Tel: +61 8 6253 4444
 NATA# 2377 Site# 2370

Auckland

 35 O'Rorke Road
 Penrose,
 Auckland 1061
 Tel: +64 9 526 45 51
 IANZ# 1327

Christchurch

 43 Detroit Drive
 Rolleston,
 Christchurch 7675
 Tel: 0800 856 450
 IANZ# 1290

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 email: EnviroSales@eurofins.com

Company Name: Sydney Environmental Group Pty Ltd
Address: Unit 63/45 Huntley St
 Alexandria
 NSW 2015

Project Name: CORAL SEA PARK
Project ID: 1203

Order No.:
Report #: 923486
Phone: 1300 884 164
Fax:

Received: Sep 14, 2022 5:45 PM
Due: Sep 14, 2022
Priority: Same day
Contact Name: Steven Wallace

Eurofins Analytical Services Manager : Asim Khan

| Sample Detail | | | | | | Asbestos Fibre Count & Concentration |
|--|-----------|--------------|---------------|--------|---------------|--------------------------------------|
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | |
| Sydney Laboratory - NATA # 1261 Site # 18217 | | | | | | X |
| External Laboratory | | | | | | |
| 1 | CY474455 | Sep 14, 2022 | 3:12PM | Air | S22-Se0030967 | X |
| 2 | CY474363 | Sep 14, 2022 | 3:12PM | Air | S22-Se0030968 | X |
| 3 | CY474605 | Sep 14, 2022 | 3:12PM | Air | S22-Se0030969 | X |
| 4 | CY474447 | Sep 14, 2022 | 3:12PM | Air | S22-Se0030970 | 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. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

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

Calculations

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

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 (PA)</i> . |
| 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. |
| SMF | Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004. |
| SRA | Sample Receipt Advice. |
| Trace Analysis | Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix. |
| UK HSE HSG | United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication. |
| UMF | Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos. |
| WA DOH | Reference document for the NEPM. Government of Western Australia, <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}). |

