

25 June 2021

Land Information New Zealand  
Private Bag 4721  
Christchurch 8140

Attn: Matthew Bradley

Dear Matthew,

**RE: Level 5-10 Foyer Assessment - RNZ House, 155 The Terrace, Wellington**  
**(Our Reference: 18960.000.001\_01)**

## 1 Introduction

Land Information New Zealand (LINZ) requested ENGEEO Limited to conduct an asbestos assessment of the lift foyers and adjacent works spaces on levels 5 -10 at the RNZ House, 155 The Terrace, Wellington.

The purpose of the assessment was to assess the potential risk associated with previously identified asbestos containing material in the LINZ offices. The assessment objective was to evaluate the potential risk to health from the identified asbestos present in the building and provide recommendation as to whether each of the levels is safe for occupation. No additional asbestos management or refurbishment surveys were conducted by ENGEEO during this asbestos assessment.

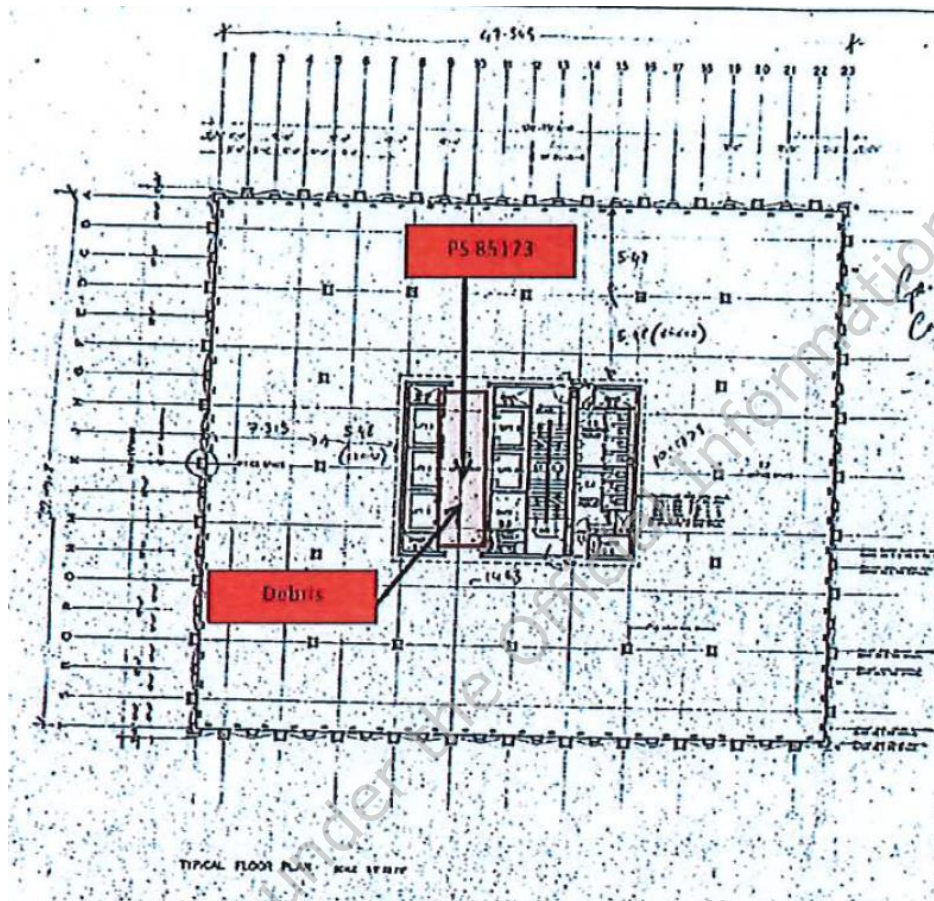
## 2 Background

RNZ House is multi-storey commercial high-rise which is tenanted by LINZ on levels 5- 10. Under the Asbestos Regulations 2016, every person conducting a business or undertaking (PCBU) has a duty to ensure the presence and location of asbestos in a workplace is identified and managed. We understand the building owners or agent, The Wellington Company Asset Management Limited, commissioned Fibre Safe NZ Limited (Report – W00197) in 2017 to survey the building in order to assist the PCBU with their legal obligations under the Asbestos Regulations.

The Fibre Safe (issued 2017 and revised 2019) report is an asbestos management survey report and asbestos management plan (AMP) combined. Fibre Safe identified several asbestos containing materials (ACMs) in certain areas within the building and on its exterior. Within the report, the condition of the material and risk posed was described and quantified in accordance with National survey guidelines and risk assessment algorithms.

The survey identified asbestos insulation board (AIB) was present within the lift foyers of levels 5 – 10. A sample of the material was collected and analysed by an IANZ accredited laboratory and confirmed as asbestos. Based on the material type, damage, surface treatment and asbestos type FibreSafe classified the material risk as high risk. The Asbestos Management Plan (AMP) recommended the material be removed. The location the AIB was reported to be located on each Level was shown in a figure in the report. The Level 5 AMP figure has been reproduced below.

**Figure 1: General Floor Layout Level 5 RNZ House**



*Fibre Safe (2019), Level 5 Sampling Plan.*

It should be noted that the AMP should not be relied upon as a comprehensive asbestos register or asbestos risk assessment for the LINZ occupied levels or building. The AMP does not provide details on the survey methodology or the laboratory analysis reports and there are also several discrepancies which have been noted in our review. Additional asbestos containing material items may be present elsewhere in the building that have yet to be identified.

### 3 Scope of Work

ENGEO was requested to attend site on the weekend of 12-13 June 2021 to conduct the asbestos assessment and the following scope of work;

- Review of Fibre Safe Asbestos Management Plan and formulation of suitable assessment methodology;

- Site visit by an experienced Worksafe licenced asbestos assessor to review layout and inspect items previously sampled and recorded as ACM;
- Collection of air samples from each floor, one within the lift lobby area and two within the work areas on each floor;
- Collection of dust samples from areas beneath where asbestos was previously identified by the AMP;
- Re-assess the location, condition and risk posed by ACMs within level 5-10; and
- Conduct a priority assessment in line with the UK Health and Safety Executive (HSE).

Air monitoring was completed by a Worksafe licenced asbestos assessor in accordance with the WorkSafe New Zealand Approved Code of Practice Management and Removal of Asbestos, (November 2016, referred to as “the ACOP”) and the Australian National Occupational Health and Safety Commission’s Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition (April 2005, referred to as “NOHSC:3003”). Air filter samples were sent for analysis to an International Accreditation New Zealand (IANZ)-accredited laboratory and analysed for the presence of asbestos fibres.

Dust samples were collected by use of a swab and targeting corners of the lobby and areas where visible dust had accumulated.

## 4 Findings

### 4.1 Visual Inspection

The lift foyers observed (Levels 5-10), all appear to have been renovated recently, presumably within the last five years based on visual appearance. There is no apparent difference between each of them on the surface (wall, ceiling linings or flooring materials), with the exception of Level 10 which does not have the same type of non-asbestos wall panels but has plasterboard walls.

The ceilings of each foyer are plasterboard. However, it is suspended with a small gap of approximately 12 cm around the perimeter between the ceiling sheeting and the walls, forming an open cavity between the ceiling and the slab.

On level 10 there is an access hatch to gain entry to behind the ceiling. On levels 5-9 there are no access hatches and there is no way of observing above the ceiling level through the 12 cm gap without intrusive holes being cut.

On level 10, the assessor was able to view the ceiling space through the access hatch and visually identified a potential asbestos containing material lining the top side of the plasterboard ceiling. This is presumed to be the original ceiling which has had plasterboard installed over at some point. The dust levels present is typical of what would be expected in a building of that age for an area which cannot be accessed and cleaned routinely.

A sample of the material was collected for analysis. The material appeared solid in nature and the chisel used to sample did not enter easily indicating the product was cement based rather than an insulation board. In addition the previous sample results indicated crocidolite, which is typically not present in AIB.

A sample of dust from surfaces in the area (not the cement sheet) was also collected for analysis. One air monitor was placed in the ceiling space within Level 10.

Though hard to access, the surveyor was able to assess the material from the lobby. The sampling tool was inserted into the underside of the ceiling to assess what type of material was present. On levels 6-9 the chisel easily entered a material and white powder came out on the chisel, consistent with plasterboard dust. On level 5, the chisel was met with a hard surface and the sound was consistent with what would be expected from a cement based sheeting. A camera was also inserted through the gap to collect photographs of the material to assist with identification. The damage caused by the sampling chisel is again visually similar to that expected for plasterboard.

Dust samples were collected from ground surface areas in each of the foyers. Samples were targeted to one area per floor most likely to contain an accumulation of dust (corners of the lift doors).

One air monitor was placed in each of the foyers as well as one on each of the north and south sides of levels 5-10.

Photo 1: Cement based sheeting above level 10 ceiling.

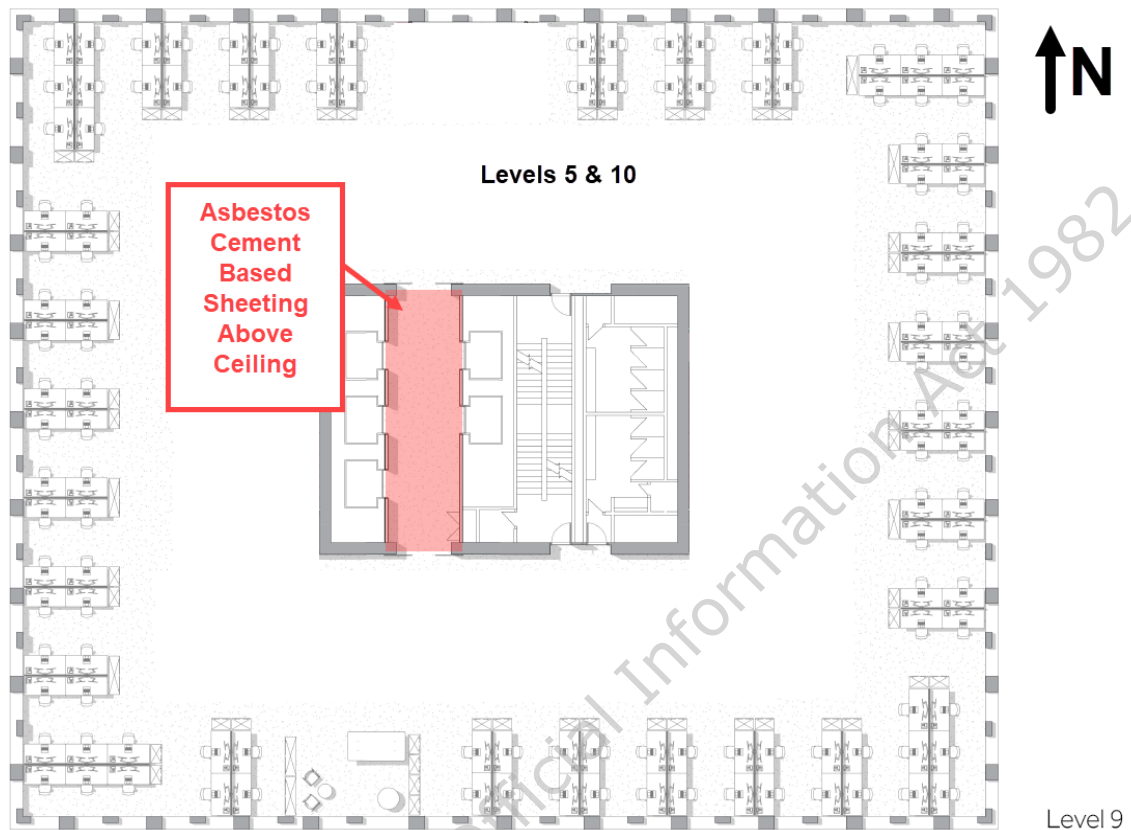


Photo 2: Example of plasterboard ceiling levels 6 – 9.





Figure 2: Cement based sheeting location



#### 4.2 Material and Dust Sampling

A total of seven swab samples for dust and debris identification and two bulk material samples were collected from the site. The locations are outlined below:

- A single swab sample was collected from the floor of each lobby on levels 5 – 10.
- A sample of the fibre cement from Level 10 and a sample of the spray coat within the stairwell.

All samples were analysed using polarised light microscopy with dispersion staining in accordance with the guidelines of AS4964-2004 Method for the qualitative identification of asbestos in bulk samples by IANZ approved laboratory Analytica.

Asbestos fibres were found to be present in the fibre cement sheet from the level 10 ceiling. The fibre cement sheet is located behind modern plasterboard lining on the ceiling. All other swab and bulk samples returned negative results when analysed for asbestos fibres (Certificates of analysis attached as Appendix 1).

Photo 3: Example of dust loading on surfaces within ceiling space above level 10 lobby to access hatch.



### 4.3 Air Monitoring

To assess the air within each work space, one air monitor was set up within the lobby area, a second air monitor was set up to the north of the elevator lobby entrance and a third monitor on each floor was placed to the south of the lobby entrance (Refer to Figure 3). The sampling locations were chosen to be directly beneath the identified ACM in the AMP and also located in the likely pathway between the ACM and the closest workspaces. The sampling locations are sufficient to assess the air in those workspaces from the identified ACM in the lobby.

The air monitors were set at between 3.0 – 4.0 litres per minute (L/min) and ran for between 120 - 240 minutes, so that each filter had received at least 480 litres (L).

Filters were examined in accordance with Safe Work Australia's Guidance Note on the Membrane Filter Method for the Estimation of Airborne Asbestos Fibres, 2nd Edition, 2005 [NOHSC:3003 (2005)] by IANZ approved laboratory Analytica.

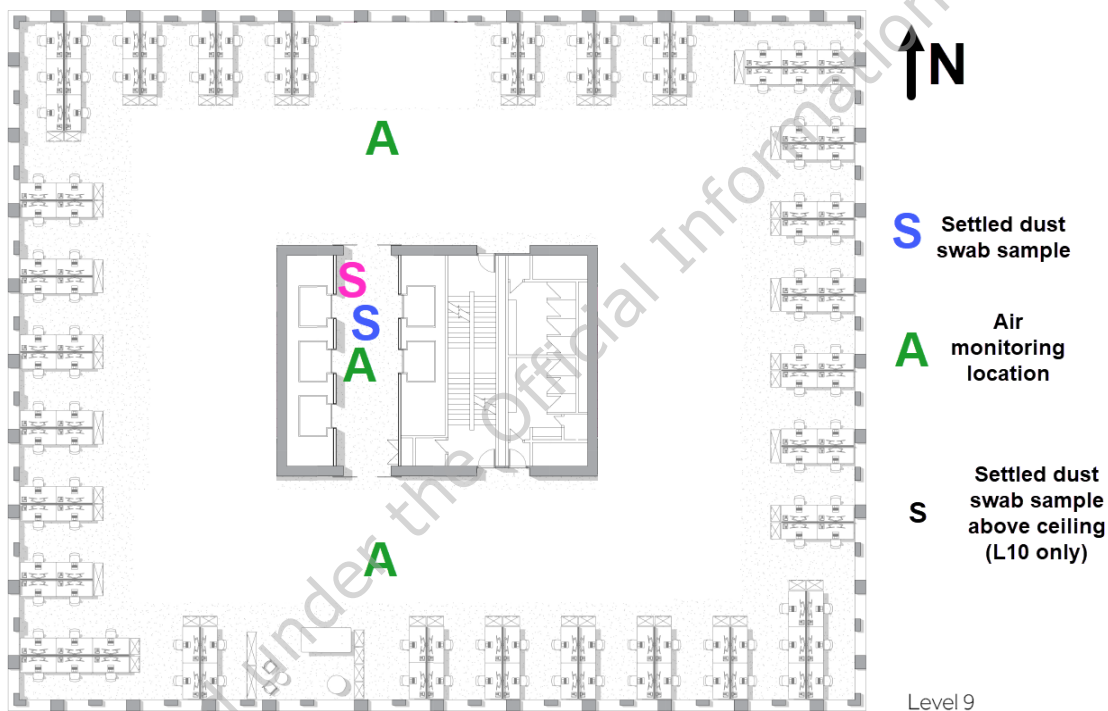
All air monitors were reported by the laboratory to have an asbestos concentration of <0.01 airborne asbestos fibres per millilitre (f/ml) of air sampled (Certificate of Analysis 21-26574). The laboratory limit of detection for this method, or the minimum concentration that can be detected with this method using Phase Contrast Microscopy (PCM) is at 0.01 f/ml. This concentration, 0.01 f/ml is also equal to the 'trace level' set within the Asbestos Regulations, which is defined as the amount of respirable asbestos fibres in the air that is permitted before action needs to be taken to prevent exposure to asbestos in an asbestos removal area.

The Workplace exposure standard (WES) (Edition 12, 2020) for asbestos is 0.1 f/ml of air averaged over an eight hour period. The Workplace exposure standards (WES) value refers to the airborne concentration of asbestos at which it is believed that nearly all workers can be repeatedly exposed on work schedules of five shifts of eight hours duration over a 40-hour work week without coming to harm. Harm in the case of asbestos is the increased lifetime risk of contracting an asbestos related cancer.

The laboratory analysis method used in the air filter analysis, utilises Phase Contrast Microscopy (PCM) which counts the total number of respirable fibres present. PCM cannot distinguish between asbestos fibres and other fibres (such as gypsum, mineral wool, cellulose etc.) and therefore air monitoring results are typically conservative counting all respirable fibres present, not just asbestos fibres.

Asbestos, due to its past use in numerous building materials and household and industrial products is a common, widespread contaminant of ambient air and subsequent layers it deposits upon. A study by the Royal Society of New Zealand and the Office of the Prime Minister's Chief Science Advisor (2015) provides background typical airborne concentrations in a variety of settings. According to the report, 'Airborne asbestos concentrations measured in homes, schools, and other buildings that contain asbestos range from about 0.00003 to 0.006 f/mL' and the concentrations rarely exceed regulatory criteria, even when the asbestos is in a poor condition.

Figure 3: Sampling Locations Levels 5 – 10



## 5 Conclusions

Based on our review of the asbestos management plan, site survey information, our site visit and laboratory analysis, the previously identified AIB has either since been removed or was historically surveyed in error. Asbestos containing materials have only been identified in Levels 5 and 10 and they are present behind modern plasterboard. Potential asbestos containing materials were not identified within the lift lobby areas on Levels 6, 7, 8 and 9. The wider floor workspaces have not been surveyed during this assessment and therefore the potential for other asbestos containing materials within the building exists.

The asbestos containing material identified on levels 5 and 10 is not asbestos insulation board, which has a higher material risk due to its greater asbestos content and increased friability. The asbestos material identified on levels 5 and 10 is asbestos cement based sheeting which when in good condition is typically non-friable and less likely to release asbestos fibres when not disturbed.

ENGEO has completed a revised risk assessment, utilising a priority score assessment where the material risk score and occupation risk score is assessed and combined to provide a total risk score. The revised material score for the asbestos cement is 5 out of 12 (low risk) while the priority assessment based on occupational exposure risk (e.g. occupant activity, likelihood of disturbance, the number of occupants of an area, frequency of use of the area and the average time each area is in use) has a priority risk ranking score of 4.12 (low risk). This asbestos cement material can be left *in-situ* and managed as it does not pose a significant risk to health.

No potential ACM was observed on levels 6 – 9 in the areas previously identified as containing high-risk asbestos insulation material. Based on our visual assessment it appears modern plasterboard is present and attached directly to timber framing.

All dust swab sample results returned non-detect for the presence of asbestos fibres, again confirming our initial visual assessment that a high risk, friable insulation board material was not present in the vicinity. All air monitoring was also found by the laboratory to be below the limit of detection for asbestos fibres in air at <0.01 f/ml, and therefore below the WorkSafe ACOP trace level for asbestos. Air monitoring was undertaken as a precaution based on the stated poor condition and type of the ACM previously identified. The air monitoring locations were chosen based on the location of the previously identified ACM

Regulation 9(1) of the Health and Safety at Work (Asbestos) Regulations 2016 (the 'Asbestos Regulations') requires PCBUs with management or control of a workplace to ensure that exposure of a person at the workplace to airborne asbestos is eliminated so far as is reasonably practicable. If it is not reasonably practicable to eliminate exposure to airborne asbestos, exposure must be minimised so far as is reasonably practicable. From our assessment, we have not identified airborne asbestos that requires elimination or minimisation.

As required by the Asbestos Regulations, the Asbestos Management Plan should be updated to reflect this additional information. The material should be routinely inspected (every two years is recommended), and its presence should be made known to site occupants or sub-contractors who may be required to work on the material or near to it.

In accordance with the Approved Code of Practice for the Management and Removal of Asbestos 2016, the areas of level 5 – 10 at RNZ House are safe (in regards to asbestos risk) for occupation.

Report prepared by



**Simon Charles**

Senior Asbestos Consultant

Report reviewed by



**Gareth Oddy, CEnvP**

Associate Environmental Scientist



## Limitations Statement

- i. We have prepared this report in accordance with the scope of work as provided by our client. This report has been prepared for the use of our client, their professional advisers and the relevant Territorial Authorities in relation to the specified project. No liability is accepted for the use of any part of the report for any other purpose or by any other person or entity.
- ii. The recommendations in this report are based on the conditions indicated from published sources, site inspections and surveys described in this report based on accepted normal methods of asbestos surveying and clearance. Only a limited amount of information has been collected to meet the specific financial and technical requirements of the client's brief and this report does not purport to completely describe all the site characteristics and properties.
- iii. This report relates only to the identification of asbestos containing materials (ACM) that may be present on the surface of the property and does not include the identification of other hazardous substances at the site or sub-surface conditions.
- iv. Although normal standards of professional practice have been applied, the absence of any identified hazardous or toxic materials should not be interpreted as a guarantee that such materials or impacts do not exist.
- v. This Limitation should be read in conjunction with the IPENZ / ACENZ Standard Terms of Engagement.
- vi. This report should be read in full and no excerpts are to be taken as representative of the whole report. To ensure its contextual integrity, the Client must not distribute the report to third parties in part only. No responsibility or liability is accepted by ENGEO for use of any part of this report in any other context.
- vii. This report is not to be reproduced either wholly or in part without our prior written permission.
- viii. All measurements detailing the extent of materials are estimates only. It is the responsibility of contractors quoting for any refurbishment or removal works to take their own measurements to establish the precise extent of the works prior to tendering.
- ix. For safety reasons, it may not have been possible to inspect certain areas of the site where areas have been designated as 'no access' or 'restricted access', unless further inspection / sampling proves otherwise, the presumption has been made that these areas contain ACMs.

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## APPENDIX 1

Notes



Level 10



Level 9



Level 8



Level 7





Level 6



Level 5



Level 10 cement sheet



Cement sheet sample





Example of dust in level 10 ceiling.



Air monitor in level 10



Level 10 through perimeter gap

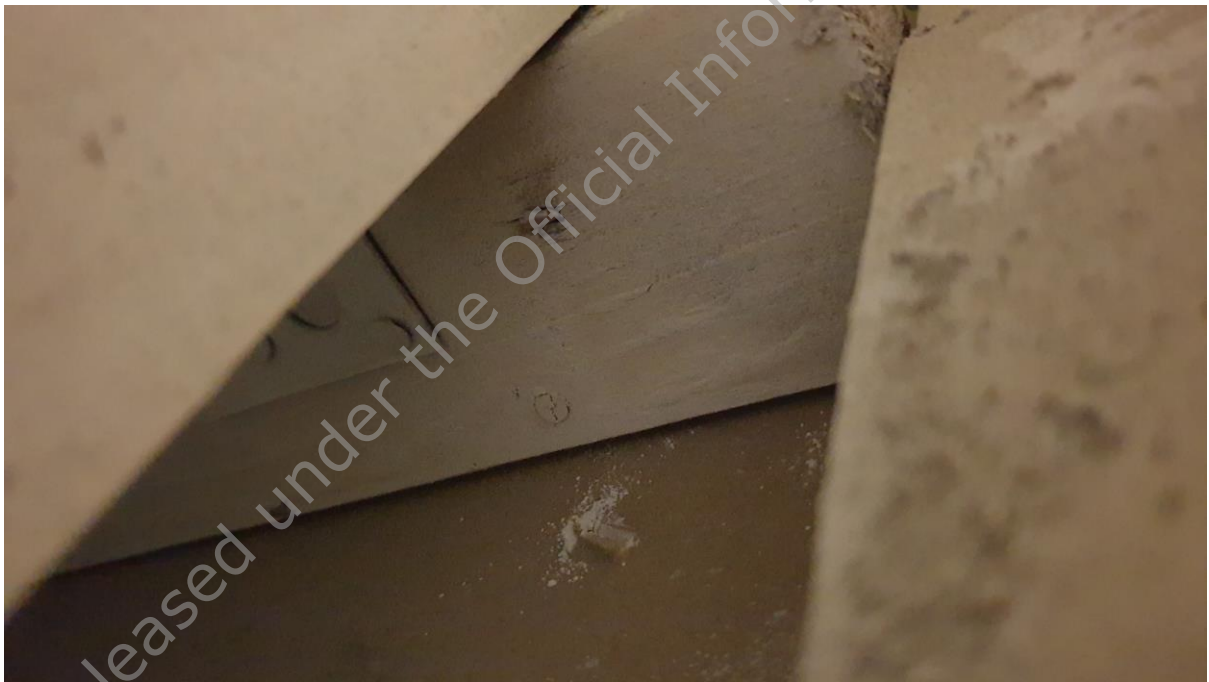


Level 9 through perimeter gap





Level 8 through perimeter gap



Level 7 through perimeter gap



Level 6 through perimeter gap



Level 5 through perimeter gap'



Stairwell spraycoat

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## **APPENDIX 2**

Certificates of Analysis





## Certificate of Analysis

ENGEO Ltd  
Plimmer Towers  
Wellington 6011  
Attention: Simon Charles  
Phone: 027 766 2007  
Email: xxxxxxxx@xxxxx.xx.xx

Lab Reference: 21-26574  
Submitted by: Simon Charles  
Date Received: 14/06/2021  
Testing Initiated: 14/06/2021  
Date Completed: 14/06/2021  
Order Number:  
Reference: 18839-X

Sampling Site: 18839-X  
Description of Work: Background/Bulk - 18839-X

### Report Comments

Samples were collected by yourselves (or your agent) and analysed as received at Analytica Laboratories. Samples were in acceptable condition unless otherwise noted on this report. Specific testing dates are available on request.

## Asbestos Fibres in Bulk (Qualitative)

### Sample Details

Laboratory ID	Client Sample ID	Sample Location	Sample Description	Date Sampled	Date Analysed
21-26574-1	1	Stairwell spraycoat	Bulk Materials (14 x 7 x 2 mm)	13/06/2021	14/06/2021
21-26574-2	2	L5 lift foyer	Bulk Materials (Dimensions: N/A)	13/06/2021	14/06/2021
21-26574-3	3	L6 lift foyer	Bulk Materials (Dimensions: N/A)	13/06/2021	14/06/2021
21-26574-4	4	L7 lift foyer	Bulk Materials (Dimensions: N/A)	13/06/2021	14/06/2021
21-26574-5	5	L8 lift foyer	Bulk Materials (Dimensions: N/A)	13/06/2021	14/06/2021
21-26574-6	6	L9 lift foyer	Bulk Materials (Dimensions: N/A)	13/06/2021	14/06/2021
21-26574-7	7	L10 lift foyer	Bulk Materials (Dimensions: N/A)	13/06/2021	14/06/2021
21-26574-8	8	L10 ceiling	Bulk Materials (Dimensions: N/A)	13/06/2021	14/06/2021
21-26574-9	9	L10 debris	Bulk Materials (13 x 8 x 2 mm)	13/06/2021	14/06/2021

Information in the above table supplied by the client: Client Sample ID, Sample Location, Date Sampled.

### Analysis Results

Laboratory ID	Client Sample ID	Sample Layers	Fibre Types	Asbestos (Present / Absent)
21-26574-1	1	L1 - Plaster Like Material	Asbestos NOT Detected. Organic Fibres	Absent
21-26574-2	2	L1 - Dust and Debris	Asbestos NOT Detected. Organic Fibres	Absent

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked \*, which are not accredited. This test report shall not be reproduced except in full, without the written permission of Analytica Laboratories.

## Analysis Results

Laboratory ID	Client Sample ID	Sample Layers	Fibre Types	Asbestos (Present / Absent)
21-26574-3	3	L1 - Dust and Debris	Asbestos NOT Detected. Organic Fibres	Absent
21-26574-4	4	L1 - Dust and Debris	Asbestos NOT Detected. Organic Fibres	Absent
21-26574-5	5	L1 - Dust and Debris	Asbestos NOT Detected. Organic Fibres	Absent
21-26574-6	6	L1 - Dust and Debris	Asbestos NOT Detected. Organic Fibres	Absent
21-26574-7	7	L1 - Dust and Debris	Asbestos NOT Detected. Organic Fibres	Absent
21-26574-8	8	L1 - Dust and Debris	Asbestos NOT Detected. Organic Fibres	Absent
21-26574-9	9	L1 - Fibre Cement Sheet	Chrysotile (White Asbestos) Amosite (Brown Asbestos) Crocidolite (Blue Asbestos) Organic Fibres	Present

Information in the above table supplied by the client: Client Sample ID.

Asbestos Fibres in Bulk (Qualitative) Approver:



Caitlin Hendry  
Technician

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## Method Summary

### Asbestos Fibres in Bulk Materials (Qualitative)

Sample analysis was performed using polarised light microscopy with dispersion staining in accordance with the guidelines of AS4964-2004 Method for the qualitative identification of asbestos in bulk samples.

Note 1: The reporting limit for this analysis is 0.1g/kg (0.01%) by application of polarised light microscopy, dispersion staining and trace analysis techniques.

Note 2: If mineral fibres of unknown type are detected, by PLM and dispersion staining, these may or may not be asbestos fibres. To confirm the identity of this fibre, another independent analytical technique such as XRD analysis is advised.

Note 3: The laboratory does not take responsibility for the sampling procedure or accuracy of sample location description.

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## Certificate of Analysis

ENGEO Ltd  
Plimmer Towers  
Wellington 6011  
Attention: Simon Charles  
Phone: 027 766 2007  
Email: xxxxxxxx@xxxxx.xx.xx

Lab Reference: 21-26574  
Submitted by: Simon Charles  
Date Received: 14/06/2021  
Testing Initiated: 14/06/2021  
Date Completed: 14/06/2021  
Order Number:  
Reference: 18839-X

Sampling Site: 18839-X  
Description of Work: Background/Bulk - 18839-X

### Report Comments

Samples were collected by yourselves (or your agent) and analysed as received at Analytica Laboratories. Samples were in acceptable condition unless otherwise noted on this report. Specific testing dates are available on request.

## Airborne Fibres (Quantitative)

### Sample Details

Laboratory ID	Client Sample ID	Sample Location	Sample Description	Date Sampled	Date Analysed
21-26574-10	1	L5 foyer	Air Filter	13/06/2021	14/06/2021
21-26574-11	2	L6 foyer	Air Filter	13/06/2021	14/06/2021
21-26574-12	3	L7 foyer	Air Filter	13/06/2021	14/06/2021
21-26574-13	4	L8 foyer	Air Filter	13/06/2021	14/06/2021
21-26574-14	5	L9 foyer	Air Filter	13/06/2021	14/06/2021
21-26574-15	6	L10 foyer	Air Filter	13/06/2021	14/06/2021
21-26574-16	7	L5 North	Air Filter	13/06/2021	14/06/2021
21-26574-17	8	L5 South	Air Filter	13/06/2021	14/06/2021
21-26574-18	9	L6 North	Air Filter	13/06/2021	14/06/2021
21-26574-19	10	L6 South	Air Filter	13/06/2021	14/06/2021
21-26574-20	11	L7 North	Air Filter	13/06/2021	14/06/2021
21-26574-21	12	L7 South	Air Filter	13/06/2021	14/06/2021
21-26574-22	13	L8 North	Air Filter	13/06/2021	14/06/2021
21-26574-23	14	L8 South	Air Filter	13/06/2021	14/06/2021
21-26574-24	15	L9 North	Air Filter	13/06/2021	14/06/2021
21-26574-25	16	L9 South	Air Filter	13/06/2021	14/06/2021
21-26574-26	17	L10 North	Air Filter	13/06/2021	14/06/2021
21-26574-27	18	L10 South	Air Filter	13/06/2021	14/06/2021
21-26574-28	19	L10 ceiling	Air Filter	13/06/2021	14/06/2021

Information in the above table supplied by the client: Client Sample ID, Sample Location, Date Sampled.

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation with the exception of tests marked \*, which are not accredited. This test report shall not be reproduced except in full, without the written permission of Analytica Laboratories.



## Analysis Results

Laboratory ID	Client Sample ID	Sample Location	Monitoring Type	Sampling Time	Average Flow Rate	Fields Counted	Fibre Count	Fibre Concentration*
Units					L/min	fields	fibres	fibres/mL
21-26574-10	1	L5 foyer	Background	1055 – 1355 180 min	3.0	100	0.0	<0.01
21-26574-11	2	L6 foyer	Background	0916 – 1116 120 min	4.0	100	0.0	<0.01
21-26574-12	3	L7 foyer	Background	0913 – 1113 120 min	4.0	100	0.0	<0.01
21-26574-13	4	L8 foyer	Background	0909 – 1109 120 min	4.0	100	1.0	<0.01
21-26574-14	5	L9 foyer	Background	0907 – 1107 120 min	4.0	100	0.0	<0.01
21-26574-15	6	L10 foyer	Background	0903 – 1103 120 min	4.0	100	0.5	<0.01
21-26574-16	7	L5 North	Background	1134 – 1334 120 min	4.0	100	0.0	<0.01
21-26574-17	8	L5 South	Background	1135 – 1335 120 min	4.0	100	0.0	<0.01
21-26574-18	9	L6 North	Background	1322 – 1522 120 min	4.0	100	0.0	<0.01
21-26574-19	10	L6 South	Background	1323 – 1523 120 min	4.0	100	0.0	<0.01
21-26574-20	11	L7 North	Background	1106 – 1346 160 min	3.0	100	0.0	<0.01
21-26574-21	12	L7 South	Background	1107 – 1347 160 min	3.0	100	0.0	<0.01
21-26574-22	13	L8 North	Background	1131 – 1331 120 min	4.0	100	2.5	<0.01
21-26574-23	14	L8 South	Background	1132 – 1332 120 min	4.0	100	0.0	<0.01
21-26574-24	15	L9 North	Background	1121 – 1321 120 min	4.0	100	1.5	<0.01
21-26574-25	16	L9 South	Background	1122 – 1322 120 min	4.0	100	0.0	<0.01
21-26574-26	17	L10 North	Background	0900 – 1300 240 min	2.0	100	0.0	<0.01
21-26574-27	18	L10 South	Background	0902 – 1302 240 min	2.0	100	0.0	<0.01
21-26574-28	19	L10 ceiling	Background	1346 – 1546 120 min	4.0	100	0.0	<0.01

Information in the above table supplied by the client: Client Sample ID, Sample Location, Monitoring Type, Sampling Time, Flow Rate.

Airborne Fibres (Quantitative) Approver:



Caitlin Hendry  
Technician

## Method Summary

### Airborne Fibres (Quantitative)

Filters examined in accordance with Safe Work Australia's Guidance Note on the Membrane Filter Method for the Estimation of Airborne Asbestos Fibres, 2nd Edition, 2005 [NOHSC:3003 (2005)].

The sample results reported in the above table should be compared with the recommended control levels outlined in Section 30.3.1 of the Health and Safety at Work Act Approved Code of Practice - Management and Removal of Asbestos, November 2016 (amended December 2016).

The recommended control levels, listed below, provide an indication of the occupational exposure levels relevant to quality control and re-occupancy for an area.

< 0.01 fibres/mL - trace level

>= 0.01 fibres/mL but < 0.02 fibres/mL - above recommended control levels

>= 0.02 fibres/mL – notifiable event

Control levels refer to respirable airborne asbestos fibre concentrations which, if exceeded, indicate there is a need to review current control measures or take other action. Air monitoring should be completed to confirm the removal area is no longer above the control levels once remediation actions have been completed.

The laboratory reporting limit for fibre concentration is 0.01 fibres/mL and results below this limit are reported as < 0.01 fibres/mL.

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## **APPENDIX 3**

BMIS Risk Assessment

## Material Risk Assessment

Material Cement Board (surveyed as Insulation Board)		
	Score	Examples of Scores variable
Product type (or debris from product)	<input checked="" type="radio"/> 1	Asbestos reinforced composites (plastic, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement)
	<input type="radio"/> 2	Asbestos insulating board, mill boards, other low density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt.
	<input type="radio"/> 3	Thermal installation (i.e. pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and packing.
Extent of damage / deterioration	<input checked="" type="radio"/> 0	Good condition: no visible damage
	<input type="radio"/> 1	Low damages: a few scratches or surfaces marks, broken edges of tiles etc.
	<input type="radio"/> 2	Medium damage: significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres.
	<input type="radio"/> 3	High damage or delamination of materials, sprays and thermal insulation. Visible asbestos debris.
Surface treatment	<input type="radio"/> 0	Composite materials containing asbestos: reinforced plastics, resins, vinyl tiles.
	<input checked="" type="radio"/> 1	Enclosed sprays and lagging, asbestos insulating board (with exposed face painted or encapsulated) asbestos cement sheet etc.
	<input type="radio"/> 2	Unsealed asbestos insulating board, or encapsulated lagging and sprays
	<input type="radio"/> 3	Unsealed laggings and sprays.
Asbestos Type	<input type="radio"/> 1	Chrysotile
	<input type="radio"/> 2	Amphibole asbestos excluding crocidolite
	<input checked="" type="radio"/> 3	Crocidolite
Total Material Score	5	

Priority – occupancy risk assessment

Material Cement Board (surveyed as Insulation Board)

	Score	Examples of Scores variable
Normal occupant activity		
<b>Main type of activity in area</b>	<input checked="" type="radio"/> 0	Rare disturbance activity (i.e. little used store room)
	<input type="radio"/> 1	Low disturbance (i.e. Office type activity)
	<input type="radio"/> 2	Periodic disturbance (i.e. industrial or vehicular activity which may contact ACM's)
	<input type="radio"/> 3	High levels of disturbance (i.e. fire doors with asbestos insulating board sheet in constant use)
Likelihood of disturbance		
<b>Location</b>	<input type="radio"/> 0	Outdoors
	<input type="radio"/> 1	Large room or well ventilated areas
	<input checked="" type="radio"/> 2	Room up to 100m <sup>2</sup>
	<input type="radio"/> 3	Confined spaces
<b>Accessibility</b>	<input checked="" type="radio"/> 0	Usually inaccessible or unlikely to be disturbed
	<input type="radio"/> 1	Occasionally likely to be disturbed
	<input type="radio"/> 2	Easily disturbed
	<input type="radio"/> 3	Routinely disturbed
<b>Extent / amount</b>	<input type="radio"/> 0	Small amounts of items (i.e. strings, gaskets)
	<input type="radio"/> 1	≤ 10m <sup>2</sup> or ≤ 10m pipe run
	<input type="radio"/> 2	≥ 10m <sup>2</sup> to ≤ 50m <sup>2</sup> or > 10m to ≤ 50m pipe run
	<input checked="" type="radio"/> 3	≥ 50m <sup>2</sup> or > 50m pipe run



Human exposure potential

<b>Number of occupants exposed</b>	<input type="radio"/> 0	None
	<input type="radio"/> 1	1 to 3
	<input type="radio"/> 2	4 to 10
	<input checked="" type="radio"/> 3	> 10
<b>Frequency of use area</b>	<input type="radio"/> 0	Infrequent
	<input type="radio"/> 1	Monthly
	<input type="radio"/> 2	Weekly
	<input checked="" type="radio"/> 3	Daily
<b>Average time area is in use</b>	<input checked="" type="radio"/> 0	< 1 hour
	<input type="radio"/> 1	> 1 to < 3
	<input type="radio"/> 2	> 3 to < 6
	<input type="radio"/> 3	> 6 hours

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Maintenance activity		
<b>Type of maintenance activity</b>	<input checked="" type="radio"/> 0	Minor disturbance (i.e. possibility of of contact when gaining access)
	<input type="radio"/> 1	Low disturbance (i.e. changing light bulbs in asbestos insulating board ceiling)
	<input type="radio"/> 2	Medium disturbance (i.e. lifting one or two asbestos insulating board ceiling tiles to access a valve)
	<input type="radio"/> 3	High levels of disturbance (i.e. removing a number of asbestos insulating board ceiling tiles to replace a valve or for re-cabling)
<b>Frequency of maintenance activity</b>	<input type="radio"/> 0	ACM unlikely to be disturbed for maintenance
	<input checked="" type="radio"/> 1	≤ 1 per year
	<input type="radio"/> 2	> 1 per year
	<input type="radio"/> 3	> 1 per month
<b>Total Priority Score</b>	<b>4.17</b>	

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