DEPT OF JUSTICE
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Disclosure

Doc15/47363.

(1)

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19th November 2015

J0022:CBH
19001 Stowe advice

Kane Kowalczuk

John Holland

Royal Hobart Hospital Redevelopment Project
John Holland / Fairbrother JV

Dear Kane,

Documented Follow Up Information Asbestos Risk Advice

Further to my meeting with representatives of on Thursday 12th November 2015, I have provided the following information. I am able to confirm that the following items were discussed at our meeting with the Stowe Pty Ltd employees on site:

- The role of the hygienist on the RHHR project;
- Summary of the events and circumstances surrounding the event;
- Understanding of the presence of asbestos in the workplace;
- Results of analysis of samples taken from on top of the set plaster ceiling;
- Discussion of risk factors which might contribute to exposures in the workplace;
- Health risks associated with asbestos in the workplace;
- The National Asbestos Exposure database; and
- Controls which have been implemented to ensure all ceiling spaces are accessed and sampled prior to any works.

It is our understanding that the Stowe contractors were undertaking works between the dates of 12th August through to the 24th August 2015 in Block C, Level 4. Specifically, the areas of activity included the following: ceiling space above the corridor adjacent child's play area, consulting room and the corridor adjacent mail toilet. The work involved feeding and pulling cables through the ceiling space above the set plaster ceiling in these locations. The penetration through which the cables were drawn were pre-existing and ranged from 10cm though to approximately 50cm.

An asbestos lagged pipe existed in the ceiling spaced above the set plaster ceiling and dust sampling indicated that some of the dust above the ceiling contained detectable levels of asbestos fibre.

No quantitative assessment of exposure risk (ie occupational air monitoring) was being undertaken at the time of the works and Prensa is therefore not able to advice on whether an exposure occurred.

Risk factor that would contribute to the risk of exposure to airborne asbestos include:

1. Amount of asbestos and the extent of distribution of asbestos contaminated dusts above the ceiling grid;
2. Degree of disturbance of the dusts above the set plaster ceiling;

3. Nature and rate of air exchange between the ceiling cavity above the set plaster ceiling and the workspace below;
4. The presence of air movements in the workplace and degree of dilution of any potential contaminated air; and
5. During of potential exposure.

In regard to the amount of asbestos and the extent of distribution of asbestos contaminated dusts above the set plaster ceiling, Prensa can confirm that we accessed the ceiling space and sampled the white pipe insulation as well as dust in the ceiling space once the pipe was identified. Of the 13 samples collected, 7 were of dust or debris. Of these 7, four tested positive for asbestos. It is determined that the presence of asbestos fibre in the dust was due to the degradation of the asbestos pipe insulation. Given that approximately half of the samples tested positive, there is also considered to be a relatively low level of contamination and it is likely to be concentrated in the vicinity of the lagged pipe.

It is our understanding that the only course of mechanical disturbance is the drawing of cables. While this activity will generate dust, it is considered less disruptive than accessing the ceiling space with objects characterised by large surface area which are capable of generating high levels of localised air movement. No removal of the set plaster ceiling was attempted.

The access penetrations were not sufficiently large to enable a person to access the ceiling cavity above. This would limit the degree and rate of air exchanges between the ceiling space and the workspace below.

While there is some dilution air ventilation in the workspace below, this is considered to be minor and the dispersal of any potential airborne contaminant is likely to be due to diffusion rather than dilution.

The work in this location was intermittent but occurred repeatedly over a 10-12 day period.

While no air testing was occurring during the works to determine whether there was any asbestos fibre contamination of the workspace as a result of this incident, our assessment of the facts concludes that it is possible that an exposure may have occurred. Some of the facts surrounding this incident would contribute to the being a lower risk than if the contractors had entered the ceiling space or had they dropped the solid set plaster ceiling. Nonetheless, it is recommended that work practices are altered and all ceiling cavities are inspected prior to any works that may disturb dust within the ceiling cavity. If there is any uncertainty as to the presence of asbestos containing materials or asbestos contamination, it is recommended that sampling be undertaken to confirm the presence or absence of asbestos prior to non-asbestos work proceeding.

Should you have any questions or queries regarding this advice, please do not hesitate to contact Cameron Hunter on 0488 555 460.

Yours sincerely,

Cameron Hunter

Principal Occupational Hygienist

Prensa Pty Ltd

Doc/16/52382 (2)

prensa

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22nd July 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.121
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	22nd July 2016	**Sampled By:**	Josh Alkemade

Laboratory and Testing Information

Sampling Type: Control Monitoring, which is monitoring using static or positional samples to measure the level of a hazardous substance in an area. Control monitoring is designed to assist in assessing the effectiveness of implemented control measures. Control monitoring is not representative of actual occupational exposures and should not be used for that purpose.

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories.*

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Shane Collins

Prensa Signatory

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LA925	F Block, Level 2, Room 215 – on central table	07:55 – 13:56	1400	2.5 / 100	< 0.01
LA934	F Block, Level 2, Room 210 – on partition wall	08:01 – 13:56	1400	1.0 / 100	< 0.01

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C0134:JPA
18699-041 BSA 22072016 F Block GL-L2.xlsm

25 July 2016

Tony Carton
Capital Insight
Level 3, Capita Building, 47 Liverpool Street
Hobart TAS 7000

Dear Tony,

Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Please find attached the asbestos bulk sample analysis results of the 9 samples collected by Josh Alkemade of Prensa Pty Ltd for Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000 on 22 July 2016 and received at the Prensa Pty Ltd laboratory (GF, 261-271 Wattletree Road, Malvern, VIC, 3144) on 25 July 2016. The samples were analysed on 25 July 2016 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories*.

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Vikas Gandhi
Asbestos Fibre Identifier

Corporate Site Number 19121. This document shall not be reproduced except in full.

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Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
	F Block, Level 2, Room 215, eastern corner riser	***Chrysotile (white asbestos) detected***
18699 - 041 - 001	Dust on tape	Synthetic Mineral Fibres detected
	100 x 30 x 1 mm	Organic fibres detected
	F Block, Level 2, Room 215, southern corner rise	***Chrysotile (white asbestos) detected***
18699 - 041 - 002	Dust on tape	Organic fibres detected
	100 x 30 x 1 mm	
	F Block, Level 2, Room 215, western corner riser	***Amosite (brown asbestos) detected***
18699 - 041 - 003	Dust on tape	Synthetic Mineral Fibres detected
	100 x 30 x 1 mm	Organic fibres detected
	F Block, Level 2, Room 215, north central riser	***Amosite (brown asbestos) detected***
18699 - 041 - 004	Dust on tape	Synthetic Mineral Fibres detected
	100 x 30 x 1 mm	Organic fibres detected
	F Block, Level 2, Room 215, northern corner riser	***Chrysotile (white asbestos) detected***
18699 - 041 - 005	Dust on tape	Synthetic Mineral Fibres detected
	100 x 30 x 1 mm	Organic fibres detected
	F Block, Level 2, Room 210, north central riser	***Amosite (brown asbestos) detected***
18699 - 041 - 006	Dust on tape	Synthetic Mineral Fibres detected
	100 x 30 x 1 mm	Organic fibres detected
	F Block, Level 2, Room 210, western corner riser	No asbestos fibres detected
18699 - 041 - 007	Dust on tape	Synthetic Mineral Fibres detected
	100 x 30 x 1 mm	Organic fibres detected
	F Block, Level 2, Room 210, southern corner riser	***Amosite (brown asbestos) detected***
18699 - 041 - 008	Dust on tape	Synthetic Mineral Fibres detected
	100 x 30 x 1 mm	Organic fibres detected
	F Block, Ground Level, Office G13 Manager of Environmental Services, rear desk and shelf	***Chrysotile (white asbestos) detected***
18699 - 041 - 009	Dust on tape	***Amosite (brown asbestos) detected***
	100 x 30 x 1 mm	***Crocidolite (blue asbestos) detected***

Only the samples submitted for analysis have been considered in presenting these results.

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C0134:CNM

25 July 2016

18699-040 BSA 21072016 F Block LG.xlsm

Tony Carton
Capital insight
Level 3, Capita Building, 47 Liverpool Street
Hobart TAS 7000

Dear Tony,

Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Please find attached the asbestos bulk sample analysis results of the 1 sample collected by Chris McCormack of Prensa Pty Ltd for Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000 on 21 July 2016 and received at the Prensa Pty Ltd laboratory (GF, 261-271 Wattletree Road, Malvern, VIC, 3144) on 25 July 2016. The sample was analysed on 25 July 2016 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's National Association of Testing Authorities (NATA), Australia approved PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories .*

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Vikas Gandhi
Prensa Signatory

NATA
WORLD RECOGNISED ACCREDITATION

Accredited for compliance with ISO/IEC 17025. Corporate Site Number 19121. This document shall not be reproduced except in full. Sampling is not covered by the scope of the NATA accreditation.

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Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 040 - 001	F Block, Ground Floor, Office G13, To Ground - Fibre cement debris Grey fibrous cement material 10 x 3 x 1 mm	*Chrysotile (white asbestos) detected* *Amosite (brown asbestos) detected* *Crocidolite (blue asbestos) detected*

Only the samples submitted for analysis have been considered in presenting these results.

(3)

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4th August 2016

C0134:CBH
18699 L3 Dust Advice V2

Tony Carton
Capital Insight Pty Ltd
L3, 47 Liverpool Street
Hobart, Tasmania 7000

Dear Tony,

Advice Regarding Level 3 Dust – F Block, Royal Hobart Hospital

As requested Prensa undertook an investigation of potential asbestos contaminated dusts within the occupied workspaces of Level 3 of F Block at the Royal Hobart Hospital. This investigation was requested by Capital Insight following the identification of a fragment of asbestos containing cement product on Level 2 of F Block. This sample of cement product was provided to Prensa on the 21st July 2016 by Phil Riley (JHFJV). Prensa was advised that the sample was recovered from the floor of F Block Ground Level Room G13. The asbestos cement product was analysed by Prensa and found to be asbestos contain cement material.

Prensa was further advised that ground floor and level 2 of F Block were vacated as a precautionary measure. Level 3 remained occupied as there was no suspected potentially contaminated debris on Level 3.

Air testing was undertaken on ground level as well as levels 2 and Level 3 over the past week. No airborne asbestos fibre has been detected in the air on any floor during these air tests.

Findings of Dust Sampling

A detailed dust sampling program was undertaken by Prensa on Tuesday 2nd August 2016. In total, 40 samples were collected on Level 3 from dusts settled on desks, window sills, floor and ceiling cavities. The bulk sample analysis reports for these samples are attached to this letter. In total, 3 samples out of 38 samples collected from the workspace were found to contain asbestos cement fragments or asbestos contaminated dusts. Both samples collected from the ceiling space contained fragments of asbestos cement debris.

Based on these sample results and our visual inspections, Prensa has concluded that the source of the contamination is the asbestos cement coffers recessed into the underside of the soffit. Due to the age of these materials there is visual evidence of degradation and visual evidence of small fragments of asbestos containing cement being deposited on the ceiling grid. Where there is a non-continuous ceiling grid, the likelihood of contamination falling through the grid into the workspace is increased.

While the quantity of asbestos in the small fragments is limited and fibres are bound to some degree in the cement matrix, it is considered unacceptable for the workspace to remain occupied without remedial action being instigated.

The air test results indicate there has not been a risk to occupants from airborne asbestos fibre, however, the asbestos containing coffers are considered to be in poor condition and remedial action is required prior to reoccupation of this space.

Recommended Remedial Action

Based on these findings, Prensa has recommended an immediate clean of the occupied spaces on Level 3. This will involve a licenced asbestos removal contractor undertaking a vacuum clean of rooms 305, 314 and 327 as well as a precautionary clean of the entire floor. Prensa will then undertake a further visual inspection and clearance air testing to confirm the area is safe for reoccupation.

It is understood that Level 3 is currently being occupied by students who are undertaking exams over the coming 3 weeks. During this period, further building works on Level 4 should cease to minimise the risk of further disturbance of the coffers and ceiling space dusts. Prensa should undertake daily air testing in this area as well as a visual inspection to confirm no further deposits of asbestos cement debris has fallen from the soffit.

Following the occupation of Level 3 for the purposes of examinations, Prensa recommends that a licenced asbestos removal contractor be engaged to seal the ceiling grid to ensure the space above the ceiling grid is isolated from the occupied work space below. Following this work there should be a further precautionary vacuum of the work area followed by clearance air testing and a visual inspection to confirm the area is safe for reoccupation.

In the longer term (1 year and beyond) a more permanent solution will be required to be developed and implemented whereby the source of the contamination is removed or more permanently sealed.

I trust this information is off assistance and will call to discuss a solution going forward.

Yours sincerely,

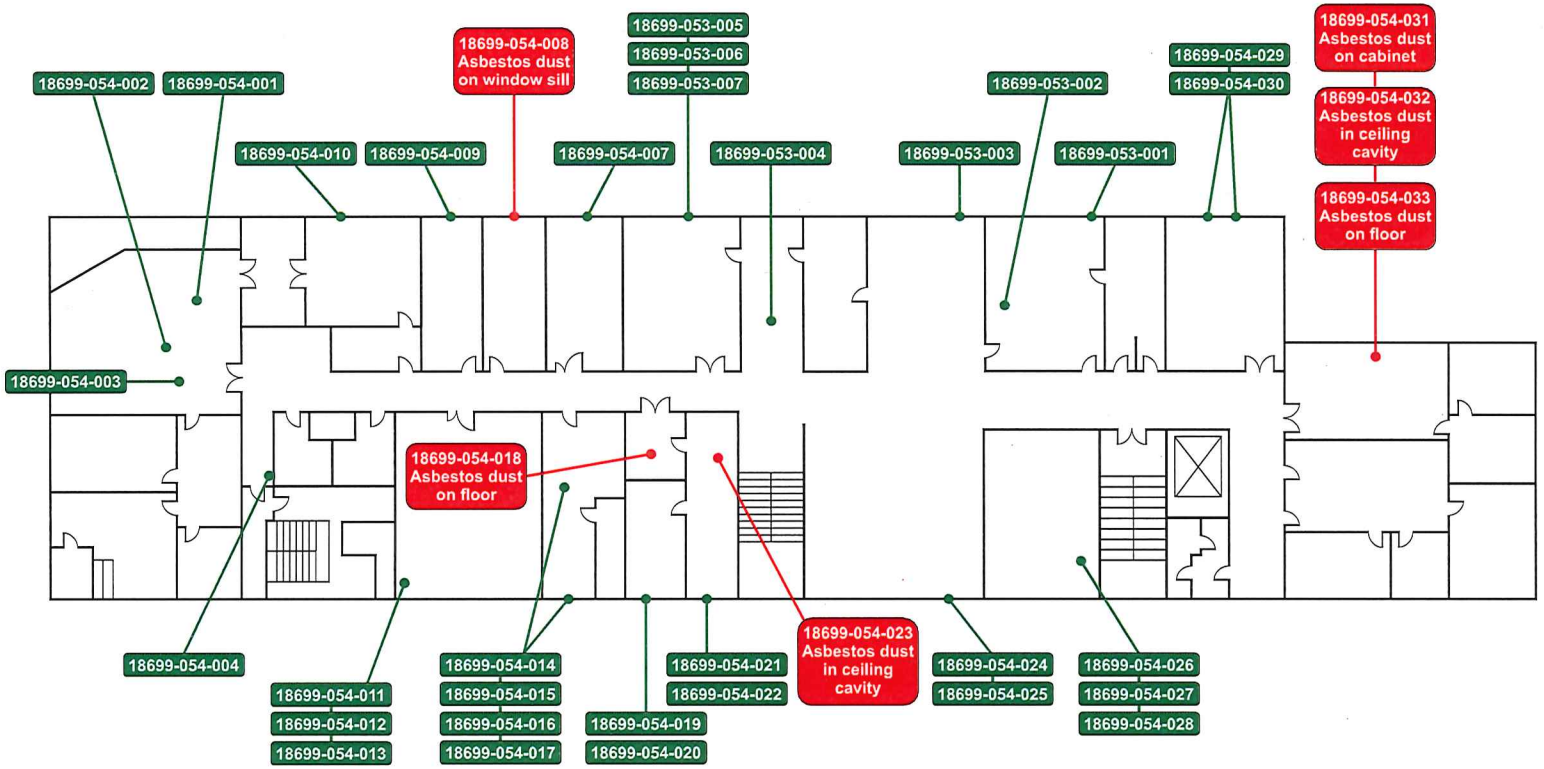
Cameron Hunter

Principal Occupational Hygienist

Prensa Pty Ltd

Attachments: Sample Plan – Level 3
Sample Analysis Results
Air monitoring

LEVEL 3



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Client:
Capital Insight

Project:
Royal Hobart Hospital Redevelopment

Address:
48 Liverpool Street,
Hobart Tasmania 7000

Drawing Title:
Sample Locations Figure

Job No.: 18699 | Client No.: C0134

Legend:

18699-000-000 DESCRIPTION — Positive Sample with Description

18699-000-000 — Negative Sample

Note: All locations are approximate

Drawn by:	Date:	Checked by:	Date:
VLT	August 2016	TWU	August 2016

File name:	Page number:	Revision:
18699 - Royal Hobart Hospital Level 3 rev1	1	1

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C0134:CAP

5 August 2016

Tony Carton
Capital Insight
Level 3, Capita Building, 47 Liverpool Street
Hobart TAS 7000

Dear Tony,

Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Please find attached the asbestos bulk sample analysis results of the 7 samples collected by Cameron Phillips & Chris Wilson of Prensa Pty Ltd for Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000 on 30 July 2016 and received at the Prensa Pty Ltd laboratory (GF, 261-271 Wattletree Road, Malvern, VIC, 3144) on 3 August 2016. The samples were analysed on 4 August 2016 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories* .

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Vikas Gandhi
Asbestos Fibre Identifier

Corporate Site Number 19121. This document shall not be reproduced except in full.

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Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 053 - 001	F Block, Level 3, Room 315, adjacent south eastern riser, window frame - Dust Grey non-homogenous dust material ~ 2 grams	No asbestos found, at the reporting limit of 0.1 g/kg, by polarized light microscopy including dispersion staining Organic fibres detected
18699 - 053 - 002	F Block, Level 3, Room 316, adjacent north western riser, on floor - Dust Dust on tape 80 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 053 - 003	F Block, Level 3, Room 317, adjacent north eastern riser, window frame - Dust Dust on tape 80 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 053 - 004	F Block, Level 3, Room 321, window frame - Dust Dust on tape 80 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 053 - 005	F Block, Level 3, Room 323, adjacent south eastern, window frame - Dust Dust on tape 80 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 053 - 006	F Block, Level 3, Room 323, adjacent central riser, window frame - Dust Dust on tape 80 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 053 - 007	F Block, Level 3, Room 323, on beds - Dust Dust on tape 80 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected

Only the samples submitted for analysis have been considered in presenting these results.

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C0134:CAP

4 August 2016

Tony Carton
Capital Insight
Level 3, Capita Building, 47 Liverpool Street
Hobart TAS 7000

Dear Tony,

Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Please find attached the asbestos bulk sample analysis results of the 33 samples collected by Trent Upton, Cameron Phillips & Chris Wilson of Prensa Pty Ltd for Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000 on 2 August 2016 and received at the Prensa Pty Ltd laboratory (GF, 261-271 Wattletree Road, Malvern, VIC, 3144) on 3 August 2016. The samples were analysed on 4 August 2016 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories* .

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Vikas Gandhi
Asbestos Fibre Identifier

Corporate Site Number 19121. This document shall not be reproduced except in full.

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Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 054 - 001	F Block, Level 3, lecture room, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 002	F Block, Level 3, lecture room, wall vent - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 003	F Block, Level 3, Lecture room, lecturers desk - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 004	F Block, Level 3, corridor, switch board adjacent lecture room, metal casing - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 005	F Block, Level 3, Room 317, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 006	F Block, Level 3, Room 321, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 007	F Block, Level 3, Room 325, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 008	F Block, Level 3, Room 327, window sill - Dust Dust on tape with two fibre bundle isolates containing chrysotile (white asbestos) 55 x 50 x 1 mm	***Chrysotile (white asbestos) detected*** Organic fibres detected
18699 - 054 - 009	F Block, Level 3, Wendy Page office, window sill - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 010	F Block, Level 3, Room 329, window sill - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 011	F Block, Level 3, Plant Room, cable tray - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 012	F Block, Level 3, Plant Room, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 013	F Block, Level 3, Plant Room, on Air Handling Unit - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 014	F Block, Level 3, Room 314, window sill - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 015	F Block, Level 3, Room 314, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 016	F Block, Level 3, Room 314, desk - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 017	F Block, Level 3, Room 340, shelves - Dust Dust on tape with two fibre bundle isolates containing chrysotile (white asbestos) 55 x 50 x 1 mm	***Chrysotile (white asbestos) detected*** Organic fibres detected
18699 - 054 - 018	F Block, Level 3, Room 340, server room, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected

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Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 054 - 019	F Block, Level 3, Room 340, store room, window frame - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 020	F Block, Level 3, Room 340, store room, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 021	F Block, Level 3, Room 314, window sill Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 022	F Block, Level 3, Room 314, window sill - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 023	F Block, Level 3 Room 314, ceiling space - Dust Dust on tape with two fibre bundle isolates containing chrysotile (white asbestos) 55 x 50 x 1 mm	***Chrysotile (white asbestos) detected*** Organic fibres detected
18699 - 054 - 024	F Block, Level 3, Room 312, southern side of riser, desk - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 025	F Block, Level 3, Room 312, northern side of riser, desk - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 026	F Block, Level 3, Room 308, adjacent riser - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 027	F Block, Level 3, Room 308, adjacent riser, pipe - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 028	F Block, Level 3, Room 308, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 029	F Block, Level 3, study room, window sill - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 030	F Block, Level 3, study room, window sill - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 054 - 031	F Block, Level 3, Room 305, server room, on cabinet - Dust Dust on tape with four fragments of fibrous cement material containing chrysotile (white asbestos), amosite (brown asbestos) and crocidolite (blue asbestos) 55 x 50 x 1 mm	***Chrysotile (white asbestos) detected*** ***Amosite (brown asbestos) detected*** ***Crocidolite (blue asbestos) detected***
18699 - 054 - 032	F Block, Level 3, Room 305, server room, ceiling space - Dust Dust on tape with two fibre bundle isolates containing chrysotile (white asbestos) 55 x 50 x 1 mm	***Chrysotile (white asbestos) detected*** Organic fibres detected
18699 - 054 - 033	F Block, Level 3, Room 305, server room, floor - Dust Dust on tape 55 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected

Only the samples submitted for analysis have been considered in presenting these results.

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1st August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.126
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	1st August 2016	**Sampled By:**	Cormac Donnelly & Cameron Phillips

Laboratory and Testing Information

Sampling Type: Clearance Monitoring, which is monitoring conducted to determine whether the airborne asbestos fibre level is less than 0.01 f/mL within the area where the asbestos removal work was performed, with this information to be included in a 'clearance certificate', where required under 'Section 3.11 Air monitoring' of the *How to Safely Remove Asbestos Tasmanian Code of Practice, 2012 (Safe Work Australia)*..

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories*.

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Shane Collins

Prensa Signatory

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LA107	F Block, Level 3, Room 315 – on window sill	11:53 – 13:02	1600	0.0 / 100	< 0.01
LA061	F Block, Level 3, Room 317 – on window sill	11:55 – 13:02	1600	0.0 / 100	< 0.01

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2nd August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.127
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	2nd August 2016	**Sampled By:**	Cameron Phillips & Chris Wilson

Laboratory and Testing Information

Sampling Type: Control Monitoring, which is monitoring using static or positional samples to measure the level of a hazardous substance in an area. Control monitoring is designed to assist in assessing the effectiveness of implemented control measures. Control monitoring is not representative of actual occupational exposures and should not be used for that purpose.

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories.*

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Shane Collins

Prensa Signatory

prensa

Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LB913	F Block, level 2, adjacent to Aegis work area, corridor, above room 208 – on notice board	07:37 – 13:42	1600	0.0 / 100	< 0.01
LB527	F Block, level 2, adjacent to Aegis work area, room 222 – on door handle	07:40 – 13:43	1600	0.0 / 100	< 0.01
LA107	F Block, level 3, room 323 – on window sill	08:28 – 09:40	1600	2.0 / 100	< 0.01
LA061	F Block, level 3, lecture theatre 2 – back of room	08:32 – 09:42	1600	1.0 / 100	< 0.01
LA179	F Block, level 3, plant room	09:03 – 10:13	1600	3.0 / 100	< 0.01
LA075	F Block, level 3, IT room	09:56 – 11:15	1600	0.0 / 100	< 0.01

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10th August 2016

C0134:CBH
18699 L3 Dust Advice Update 20160810

Tony Carton
Capital Insight Pty Ltd
L3, 47 Liverpool Street
Hobart, Tasmania 7000

Dear Tony,

Update Advice Regarding F Block Asbestos Contamination, Royal Hobart Hospital

This update advice follows previous advice issued on 4th August 2016 (ref 18699 L3 Dust Advice V2) and is in relation to the identification of asbestos contaminated dust and debris in F Block of the RHH.

Based on the findings of a detailed dust sampling program on Level 3 of F Block our earlier advice recommended the following actions:

- An immediate clean of the occupied spaces of level 3. This was to involve a licenced asbestos removal contractor undertaking a vacuum clean of rooms 305, 314, 340 & 327 as well as a precautionary clean of the entire floor;
- Cessation of building works on Level 4 to mitigate the vibration risk which may be contributing to the dislodging of asbestos containing cement fragments form the coffers;
- Ongoing air testing on all occupied floors of F Block to confirm that the control measures are effective in ensuring there are no detectable levels of asbestos fibre in air.

Prensa participated in University of Tasmania staff consultation together with Capital Insight on Monday 8th August to discuss the findings, table results of air testing and sample analysis and discuss the required actions going forward.

Prensa can confirm that the vacuum clean of rooms 305, 314, 340 and 327 has been completed by a licenced asbestos removal contractor and that Prensa undertook a visual inspection and clearance of these rooms. We understand that a licenced asbestos removal contractor has been instructed to undertake a precautionary clean of the remainder of level 3 from areas where dust has been sampled and found to be negative. We understand precautionary clean is due to be undertaken after hours prior to 12th August.

Prensa is currently undertaking dust sampling and inspections of levels 2, 1, G, B and LB to investigate whether the findings identified on level 3 are consistent with the remainder of the building.

To date all air testing undertaken in F Block has confirmed there is no detectable level of asbestos fibre in the air. Based on these air test results we confirm that building F (Levels LB, B, G 1, 2, & 3) are safe to remain occupied during the ongoing investigations.

I trust this information is off assistance and will call to discuss a solution going forward.

Yours sincerely,

Cameron Hunter

Principal Occupational Hygienist

Prensa Pty Ltd

DOE/16/52571 18/8/16
(4)

Asbestos Contamination Assessment
Royal Hobart Hospital, F Block
Hobart, Tasmania

Capital Insight Pty Ltd

August 2016

prensa

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Hawthorn Victoria 3122

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ABN: 12 142 106 581

Job No: 18699: Client No: C0134

Executive Summary

Introduction

Prensa Pty Ltd (Prensa) was engaged by Capital Insight Pty Ltd (Capital Insight) to conduct an Asbestos Contamination Assessment of Royal Hobart Hospital, F Block, Hobart, Tasmania (the Site). Prensa conducted the assessment from the 4-13 August 2016 at the request of David Rowland of Capital Insight.

Objective

The Objective of this investigation was to investigate the source of the contamination and to determine the extent of further contamination within F Block. In addition, the investigation has been undertaken to determine the level of potential health risk which any identified contamination may pose to occupants of the building.

Scope of Works

This particular investigation is limited to the investigation and assessment of potentially contaminated dust and debris within the occupied spaces of F Block and does not constitute a comprehensive destructive asbestos audit of F Block. The investigation included levels 2, 1, ground floor, basement and lower basement (level 3 was investigated previously). Level 4 is currently a construction zone, not occupied by the hospital and was excluded from the scope of works.

Methodology

In order to investigate the nature, extent and health risk associated with potentially contaminated dust and debris within F Block, Prensa's investigations involved a systematic visual inspection of the occupied spaces of each level, a systematic and representative sample program involving the collection of samples of dust and debris from horizontal surfaces, an inspection and mapping of ceiling structures in each room, and a comprehensive air sampling program.

Findings

While the vast majority of surface dust samples were reported as "no asbestos detected", the investigation has identified small fragments of asbestos containing cement have dislodged from the edges of the coffers recessed into the soffit in some locations. The risk of contamination of the occupied workspace is greater where the coffers above the room contains asbestos rather than no asbestos materials and where the ceiling grid is non-continuous or non-existent.

The detailed air monitoring program has demonstrated there has been no detectable level of asbestos fibre in air during the period over which the investigation has taken place. All air test results (totalling 81 separate indoor air samples in F Block over 6 continuous days from Monday 8 to Saturday 13 August 2016) were consistent with normal background concentrations, indicative of a negligible asbestos fibre inhalation risk to F Block staff and visitors.

Based on these air test results and Prensa's detailed surface dust sampling program, recommendations have been made to remediate the affected areas by HEPA vacuum cleaning in the immediate term (*N.B. this recommended remedial work was completed by a suitably licensed contractor for all high priority occupied workspaces prior to Monday 15 August 2016*).

Recommendations

In addition to the immediate cleaning program recommended (and now completed) for specified rooms, interim control measures have been recommended including reinstating missing or dislodged ceiling tiles and installing physical barriers to seal over any other visible gaps beneath all soffits to ensure a continuous ceiling grid. In addition to such remedial works to the fabric of false ceilings, Prensa has recommended the implementation of a building specific asbestos management plan (AMP) to manage the asbestos hazard in the short to medium term, until a more permanent solution is designed and implemented.

This executive summary must be read in conjunction with this entire report.

Statement of Limitations

This document has been prepared in response to specific instructions from Capital Insight to whom the report has been addressed. The work has been undertaken with the usual care and thoroughness of the consulting profession. The work is based on generally accepted standards and practices of the time the work was undertaken. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The report has been prepared for the use by Capital Insight and the use of this report by other parties may lead to misinterpretation of the issues contained in this report. To avoid misuse of this report, Prensa advise that the report should only be relied upon by Capital Insight and those parties expressly referred to in the introduction of the report. The report should not be separated or reproduced in part and Prensa should be retained to assist other professionals who may be affected by the issues addressed in this report to ensure the report is not misused in any way.

Unless otherwise stated in this report, the scope is limited to fixed and installed materials and excludes buried waste materials, contaminated dusts and soils.

Unless expressly stated it is not intended that this report be used for the purposes of tendering works. Where this is the intention of Capital Insight, this intention needs to be communicated with Prensa and included in the scope of the Proposal.

Prensa is not a professional quantity surveyor (QS) organisation. Any areas, volumes, tonnages or any other quantities noted in this report are indicative estimates only. The services of a professional QS organisation should be engaged if quantities are to be relied upon.

Sampling Risks

It is noted that while the assessment has attempted to locate the asbestos-containing materials within the building(s), the investigation was limited to only a visual assessment and limited sampling program and/or the review and analysis of previous reports made available. Prensa notes that sampling is representative only and that due to the lack of homogeneity of building materials it is possible that sampling has not detected all asbestos within the nominated locations.

Given that a representative sampling program has been adopted, not all materials suspected of containing asbestos and that at the time of the investigation were sampled and assessed. It is noted that some asbestos materials may have been assumed to contain asbestos based on their similar appearance to previously sampled materials.

Therefore, it is possible that asbestos materials, which may be concealed within inaccessible areas/voids, may not have been located during the investigation. Such areas include, but are not limited to:

- Materials concealed behind structural members and within inaccessible building voids;
- Areas inaccessible without the aid of scaffolding or lifting devices;
- Areas below ground;
- Inaccessible ceiling or wall cavities;
- Areas which require substantial demolition to access;
- Areas beneath floor covering where asbestos-containing materials were not expected to exist;
- Materials contained within plant and not accessible without dismantling the plant; and
- Areas where access is restricted due to locked doors, safety risks, or being occupied at the time of the investigation.

Reliance on Information Provided by Others

Prensa notes that where information has been provided by other parties in order for the works to be undertaken, Prensa cannot guarantee the accuracy or completeness of this information. Capital Insight therefore waives any claim against the company and agrees to indemnify Prensa for any loss, claim or liability arising from inaccuracies or omissions in information provided to Prensa by third parties. No indications were found during our investigations that information contained in this report, as provided to Prensa, is false.

Future Works

During future works at the site, care should be taken when entering or working in any previously inaccessible areas or areas mentioned above and it is imperative that works cease immediately pending further investigation and sampling (if necessary) if any unknown materials are encountered. Therefore, during any refurbishment or demolition works, further investigation, sampling and/or assessment may be required should any suspect or unknown material be observed in previously inaccessible areas or areas not fully inspected, i.e. carpeted floors.

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1 Introduction

Prensa Pty Ltd (Prensa) was engaged by Capital Insight Pty Ltd (Capital Insight) to conduct an Asbestos Contamination Assessment of Royal Hobart Hospital, F Block, Hobart, Tasmania (the Site). Prensa conducted the assessment from the 4 - 13 August 2016 at the request of David Rowland of Capital Insight.

2 Background

Prensa has previously undertaken an investigation of potential asbestos contaminated dusts within the occupied workspaces of F Block at the Royal Hobart Hospital. This investigation was requested by Capital Insight following the identification of a fragment of asbestos containing cement product in an occupied space of F Block. This sample of cement product was provided to Prensa on the 21st July 2016 by Phil Riley (JHFJV). Prensa was advised that the sample was recovered from ground level, Room G13 of F Block. The asbestos cement product was analysed by Prensa and found to be asbestos containing cement material.

As a precautionary measure, parts of F Block were vacated and air testing was immediately undertaken on ground level as well as levels 2 and Level 3. No airborne asbestos fibre has been detected in the air on any floor during these air tests.

3 Objective

The Objective of this investigation was to investigate the source of the contamination and to determine the extent of further contamination within F Block. In addition, the investigation has been undertaken to determine the level of potential health risk which any identified contamination may pose to occupants of the building.

4 Scope of Works

This particular investigation is limited to the investigation and assessment of potentially contaminated dust and debris within the occupied spaces of F block and does not constitute a comprehensive destructive asbestos audit of F Block.

The investigation included levels 2, 1, ground floor, basement and lower basement (level 3 was investigated previously). Level 4 is currently a construction zone, not occupied by the hospital and was excluded from the scope of works.

5 Methodology

In order to investigate the nature, extent and health risk associated with potentially contaminated dust and debris within F Block, the following investigations were undertaken:

- A systematic visual inspection of macroscopic dusts and debris in the occupied spaces of each level;
- A systematic and representative sample program to support the visual inspection, involving the collection of samples of dust and debris from horizontal surfaces in the occupied spaces of each level (i.e. floors, work stations, window sills, cabinets etc.);
- An inspection and mapping of ceiling structures in each room of F Block; and

- A detailed and comprehensive air sampling program throughout the building (i.e. background asbestos fibre air monitoring).

The sampling and analytical methods used are described below.

5.1 Surface Dust Bulk Sampling and Analysis

This assessment was carried out in accordance with the guidelines documented in the Safe Work Australia Code of Practice *How to Manage and Control Asbestos in the Workplace, 2011*.

Samples of surface dust were collected on self-adhesive tape to obtain a representation of dust settled on surfaces. The collection of surface dusts was undertaken using the adhesive tape method given the relatively low quantities of dust visible on surfaces.

Settled dust samples were analysed by Prensa's asbestos testing laboratory, in accordance with AS4964-2004 *Method for the qualitative identification of asbestos in bulk samples*.

Sample results are presented as a presence or absence of asbestos fibre in the sample.

5.2 Asbestos Fibre Air Monitoring

Asbestos fibre air monitoring was undertaken in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC:3003 (2005)] and under the terms and conditions of Prensa's NATA accreditation.

6 Findings

The findings of the asbestos contamination assessment in F Block are as follows:

6.1 Visual Inspection

The structure of the false ceiling was examined on each floor, with a number of different types of ceilings identified. The range of ceiling types identified are summarised below and included both fully sealed and partially sealed systems:

- Fully sealed set plaster (and some fibre cement sheet) ceilings (with occasional access hatches installed);
- Suspended ceiling tiles (plaster or SMF based) in a drop-in grid system;
- Perforated sheet metal ceiling tiles fitted into a grid system;
- Aluminium slat type ceiling system (designed with apertures between each slat, however with an insulating material believed to be synthetic mineral fibre (SMF) covering the apertures); and
- In some areas, there were no false ceilings installed, exposing the concrete floor slab above.

As such while some areas on floors have a completely sealed false ceiling barrier between the occupied space and the ceiling void, other floor areas have gaps in the ceilings, or no ceiling at all.

The structure of the false ceiling on each level has been mapped and results presented in Appendix D of this report.

While access into the ceiling voids was very limited given the nature of the ceilings and the strict hospital ceiling access protocols, Prensa can confirm that the asbestos cement lined coffers are present to the underside of the concrete floor slabs on each level. These coffers are predominantly concealed above the various false ceilings, however are exposed in some areas where there are no false ceilings installed. In the case of the latter, the coffers are generally encapsulated with paint or a

decorative vermiculite spray coating above general occupied spaces. However minor sections of exposed coffers with no apparent encapsulation (i.e. unpainted and exposed asbestos cement formwork) were identified on several occasions, generally in limited occupancy service areas such as switch board cupboards and store rooms.

A visual inspection of the occupied spaces was undertaken on each floor to assess the general extent of dusts settled on surfaces. Visible dust was identified in numerous locations, particularly the less accessible areas under desks, on ledges and window sills etc. The more readily accessible areas of floors and other surfaces including desk and bench tops and other furniture had less visible dust, consistent with a routine cleaning program. There was no visible (macroscopic) evidence of suspect asbestos material associated with the visible sources of settled dust.

6.2 Surface Dust Bulk Sampling Program

The results of the sampling and analysis of dust and debris within F Block are contained in Appendix B. In total 161 samples were collected and analysed from level 2 down to lower basement inclusive (N.B. level 3 findings has been reported previously (ref. Prensa reports 4 and 10 August), and sampling was not conducted on level 4 as this is currently a construction zone and not occupied by the hospital).

Summarising, asbestos was detected in 6 of the 161 samples collected. Asbestos was detected in samples from ground level, basement and lower basement. Asbestos was not detected in any of the samples collected from levels 1 and 2.

The small proportion of surface dust samples reported as containing asbestos were consistently identified as predominantly a general "house" type dust, with a very minor component of asbestos fibre identified amongst the general dust. Stereo-microscopic examination of these tape samples identified a predominance of non –fibrous particulate material such as concrete fragments, organic and synthetic organic type fibres consistent with paper and cloth residues, and other detritus including insect debris, etc.

A summary of the "positive" results is presented in Table 1 below.

Table 1 – Bulk Sample Analysis Results, F Block

Level	Room	Sample #	Sample description	Result	Ceiling Structure
Lower Basement	AHU plant room behind main switch room	18699-056-003	Floor sample; Dust on tape, minor component of asbestos	Brown asbestos detected	No ceiling installed (unoccupied room)
Basement	Small Cleaners Store Room B04	18699-056-026	Upper shelving; Dust on tape, minor component of asbestos	White asbestos detected	No ceiling installed (unoccupied room)
Basement	Small semi-open server room behind door B07	18699-056-029	Dust on tape, minor component of asbestos	White asbestos detected	No ceiling installed directly above server

Table 1 – Bulk Sample Analysis Results, F Block					
Level	**Room**	**Sample #**	**Sample description**	**Result**	**Ceiling Structure**
Basement	Switch board cupboard outside room B01	18699-056-037	Dust on tape, minor component of asbestos	White asbestos detected	No ceiling installed directly above switch board (unoccupied room)
Ground floor	Room G02	18699-057-012	Floor of room; dust on tape, minor component of asbestos	White asbestos detected	Suspended plaster tiles (several missing)
Ground floor	Switch board cupboard	18699-057-015	Base of cupboard; dust on tape, minor component of asbestos	White asbestos detected	No ceiling installed directly above switch board (unoccupied room)

6.3 Background Asbestos Fibre Air Monitoring

In total 81 air tests were collected and analysed over a continuous 6 day period from Monday 8 to Saturday 13 August 2016. This program involved at least two representative air tests on each level of F Block on a daily basis over the investigation period. Results of air testing were provided on a daily basis to assist with the management response to the initial incident.

NATA endorsed air test reports have been provided in Appendix C of this report. In summary no asbestos fibre was detected above the detection limit of the method in any location over the period of the investigation. All air test results were consistent with normal background concentrations, indicative of a negligible asbestos fibre inhalation risk.

It is noted air testing had also been undertaken by Prensa in F Block previous to the sampling program mentioned above, similarly with all air test results recorded below the limit of detection of the method.

7 Discussion

Based on the results of this investigation, the source of the contamination has been identified as coming from the asbestos cement coffers which form part of the floor slab in the majority of F Block. The coffers have been used as formwork during the construction of the building and are recessed into the soffit of the slab. Not all of the coffers in F Block comprise asbestos cement material but where they have been constructed using asbestos cement material, there is visual evidence of degradation and crumbling of the edges in some locations.

From the visual and sample analyses evidence gathered by Prensa, there appears to be a correlation between the rooms where asbestos has been identified in the workspace and the presence of asbestos containing coffers in that room, together with a non-continuous ceiling grid (or complete lack of a false ceiling). Microscopic examination of the asbestos content in the overall dust sample indicates a consistency with the asbestos containing cement coffers. "Positive" surface dust samples were

recorded only in the vicinity of a gap in the false ceiling (e.g. a missing ceiling tile), or where there was no ceiling at all, and only below non-encapsulated asbestos cement lined coffers. Where dust samples were collected below intact and essentially fully enclosed ceilings, or below exposed coffers (i.e. no ceiling) but fully encapsulated (i.e. painted or coated with decorative vermiculite), sample results were consistently recorded as "negative".

Given the source of the contamination, the distribution of the contamination is likely to be heterogeneous. In particular, a discrete fragment of asbestos cement product may be identified in a sample location while a second sample collected from the same room may be found to be "negative". In addition, it is possible that a room sample to be found "negative" at one point in time may be found "positive" at a later date, as a result of gradual deterioration of the coffers over time, and where gaps in the ceiling allow dust migration from the void to the occupied space below.

The one anomaly to the pattern of asbestos fibre detected in dust sampling program was recorded in the lower basement AHU plant room located behind, and via, the Main Switch room. While this is not a normally occupied work space (it is a restricted access plant area), it was targeted for sampling given the exposed and un-encapsulated coffers in this area. The analysis of the floor dust sample collected here-in identified several discrete bundles of Amosite (brown) asbestos loosely embedded in a plaster based material. This is consistent with a pre-formed pipe lagging material which may have previously been installed in this area, or remains installed (a number of lagged pipes are present in this plant room however these have an outer covering and the type of insulation materials beneath are unknown). This area presents a negligible health risk while the settled dusts remain undisturbed and the room maintained as a restricted access plant area.

The health risk posed from the identified contaminated material will result from fibres becoming airborne and breathed in by building occupants. The extensive air testing program has indicated that there has not been a detectable level of respirable asbestos fibre in the air and therefore there has been no evidence to date of an asbestos fibre inhalation risk. Nonetheless, the deteriorated and exposed nature of some of the asbestos containing coffers, and the potential for fragments and dust to become dislodged and migrate into an occupied workplace is unacceptable.

Management controls considered necessary to respond to the identified contamination and potential source of future contamination have been provided below.

8 Recommendations

Based on the findings of this assessment, it is recommended that the following control measures are adopted to effectively manage the asbestos hazard associated with the asbestos cement coffer formwork recessed into the concrete slabs on each level of F Block:

- Conduct localised "environmental" cleans as soon as is practicable in those areas / rooms where dust samples were reported with asbestos detected. This should include as a priority the normally occupied spaces, however the normally unoccupied areas such as plant rooms can be deferred unless access into such areas will be required in the short term (*N.B. this recommended clean-up work was completed for all high priority occupied workspaces prior to Monday 15 August*);
- Conduct a precautionary clean of every level of F Block in locations consistent with the pattern of sample findings as discussed in section 7 above. Such areas can be described as:

  - Rooms below areas where there are breaches (apertures) in the ceiling, such as missing or partly dislodged ceiling tiles;
  - Rooms / areas where there are no ceilings and the coffers are not encapsulated;
- Seal up the various apertures in the false ceilings across all levels as soon as practicable to minimise the potential for further migration of contamination from the ceiling voids. This should entail reinstatement of missing and dislodged ceiling tiles, and installation of temporary sheeting or other suitable building material where gaps exist, to fully seal off the ceiling void from the occupied space below. Exposed and un-encapsulated asbestos cement lined coffers (if identified above occupied work spaces - although based on Prensa's observations this scenario appears unlikely to be encountered), should be sealed with a suitable thick-build and tinted paint or similar sealant product. This is considered a lower priority in unoccupied areas such as plant rooms;
- Implement a building specific asbestos management plan (AMP) for F Block to manage the asbestos hazard in the ceiling void until such time that a long term remediation program is implemented. This AMP would include such controls as prohibitions on uncontrolled ceiling disturbances, contractor inductions, asbestos awareness training of relevant hospital staff, regular visual inspections to verify the integrity of the false ceilings and other controls such as installation of warning signage where practicable, regular background air monitoring and emergency response procedures;
- Budget for the complete removal and/or effective encapsulation or enclosure of the asbestos cement coffers in the medium to longer term, to eliminate or otherwise minimise the risk of further deterioration of asbestos material and migration of contamination into occupied work spaces.

9 Conclusion

A detailed investigation of the source and extent of asbestos containing dusts and debris from within F Block as well as an assessment of health risks has been undertaken.

The investigation has identified that due to the age of the building, small fragments of asbestos containing cement have dislodged from the edges of the coffers recessed into the soffit in some locations. The risk of contamination of the occupied workspace is greater where the coffers above the room contains asbestos rather than no asbestos cement products and where the ceiling grid is non-continuous or non-existent.

The detailed air monitoring program has demonstrated there has been no detectable level of asbestos fibre in air during the period over which the investigation has taken place. All air test results (totalling 81 separate indoor air samples in F Block over 6 continuous days), were consistent with normal background concentrations, indicative of a negligible asbestos fibre inhalation risk to F Block staff and visitors. Based on these air test results and our detailed dust sampling program, recommendations have been made to remediate the affected areas by HEPA vacuum cleaning in the immediate term.

In addition, interim control measures have been recommended including reinstating missing or dislodged ceiling tiles and installing physical barriers to seal over any other visible gaps beneath all soffits to ensure a continuous ceiling grid. In addition to such remedial works to the fabric of false ceilings, Prensa has recommended the implementation of a building specific AMP to manage the asbestos hazard in the short to medium term, until a more permanent solution is designed and implemented.

Appendix A: Photographs

Photo 1. Exposed and unsealed asbestos cement lined coffers on lower basement level (main switch room). These are typical of coffers throughout all levels, however most are concealed above false ceilings or are encapsulated.

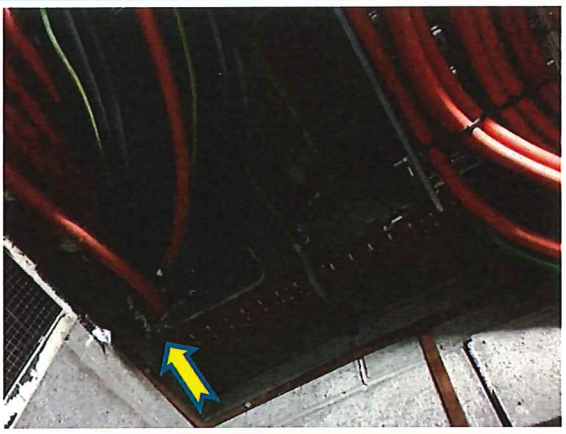

Photo 2. Exposed and unsealed asbestos cement lined coffers on lower basement level (main switch room). Evidence of previous disturbances by installation of services.

Photo 3. Exposed and unsealed asbestos cement lined coffers on lower basement level (main switch room). Evidence of previous disturbances. This is an example of damage / deterioration to the edge of the asbestos cement.

Photo 4. Example of exposed concrete slab in F Block (no false ceiling installed however the coffers are effectively encapsulated with decorative vermiculite spray or paint).

Photo 5. Example of suspended ceiling tile system with several tiles missing, exposing the coffers in the void above.

Photo 6. Example of suspended ceiling tile system with tile missing, exposing the coffers in the void above.

Photo 7. Example of suspended ceiling tile system with tile missing, exposing the coffers in the void above. Asbestos cement lining to coffer noted to be painted in this location.

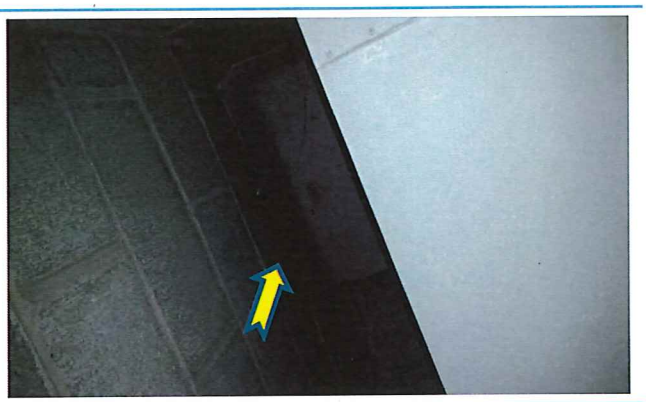

Photo 8. Example of exposed coffer recessed in soffit of concrete slab in a service area where there is no false ceiling installed.

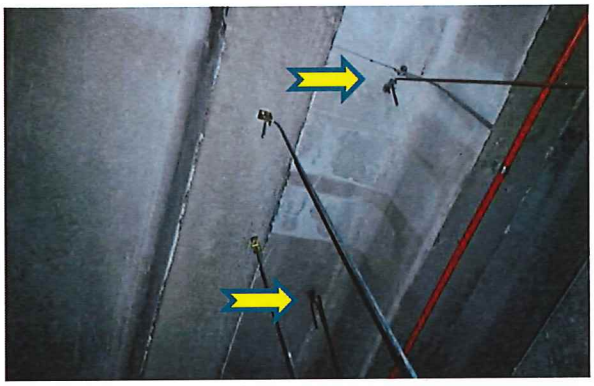

Photo 9. Example of an asbestos cement lined coffer that has had suspended ceiling hangers fixed direct into the asbestos material (i.e. potential for loose debris).

Photo 10. Aluminium slat style ceiling system with gaps between each slat (however SMF type insulation was noted installed across such gaps providing some level of protection between the void and occupied space).

Photo 11. Example of suspended ceiling tile system with a single tile missing, exposing the coffers in the void above.

Photo 12. Example of asbestos cement lined coffers. Where no suspended ceiling is installed in occupied work spaces the coffers were generally found to be encapsulated.

Appendix B: Laboratory Bulk Sample Analysis Reports

GF, 5 Burwood Road
Hawthorn, VIC, 3122
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F: (03) 9509 6125
E: admin@prensa.com.au
ABN: 12 142 106 581

C0134:PMK

14 August 2016

Tony Carton
Capital Insight Pty Ltd
Level 3, 47 Liverpool Street
Hobart TAS 7000

Dear Tony,

Asbestos Bulk Sample Analysis Report

Lower B & B, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Please find attached the asbestos bulk sample analysis results of the 42 samples collected by Alan Barker & Paul Kenny of Prensa Pty Ltd for Lower B & B, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000 on 11 August 2016 and received at the Prensa Pty Ltd laboratory (GF, 5 Burwood Road, Hawthorn, VIC, 3122) on 12 August 2016. The samples were analysed on 12 August 2016 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories* .

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Alan Barker
Asbestos Fibre Identifier

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Asbestos Bulk Sample Analysis Report

Lower B & B, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
	Lower Basement, main switchboard room, floor - Dust swab	No asbestos fibres detected
18699 - 056 - 001	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Lower Basement, main switchboard room, top of switchboards - Dust swab	No asbestos fibres detected
18699 - 056 - 002	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Lower Basement, air handling unit room behind main switchboard room, floor - Dust swab	***Amosite (brown asbestos) detected***
18699 - 056 - 003	Dust on tape 100 x 50 x <1 mm	Organic fibres detected Synthetic Mineral Fibres detected
	Lower Basement, main switchboard room, under transformer - Dust swab	No asbestos fibres detected
18699 - 056 - 004	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Lower Basement, car park, expansion joints - Dust swab	No asbestos fibres detected
18699 - 056 - 005	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Lower Basement, corridor adjacent Hyperbaric Technical officer's Room, floor - Dust swab	No asbestos fibres detected
18699 - 056 - 006	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Aged care unit, open plan office adjacent Store 3, top of shelf over desk - Dust swab	No asbestos fibres detected
18699 - 056 - 007	Dust on tape 100 x 50 x <1 mm	Organic fibres detected Synthetic Mineral Fibres detected
	Basement, Aged care unit, open plan office adjacent Store 3, carpet under desk - Dust swab	No asbestos fibres detected
18699 - 056 - 008	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Aged care unit, central-east internal office, partition around window ledge - Dust swab	No asbestos fibres detected
18699 - 056 - 009	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basmement, Aged care unit, Director of Respiratory Medicine Office, windowsill - Dust swab	No asbestos fibres detected
18699 - 056 - 010	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Aged care unit, office adjacent Director of Respiratory Medicine Office, windowsill - Dust swab	No asbestos fibres detected
18699 - 056 - 011	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Aged care unit, administration desk, windowsill - Dust swab	No asbestos fibres detected
18699 - 056 - 012	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Aged care unit, meeting room, windowsill - Dust swab	No asbestos fibres detected
18699 - 056 - 013	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Aged care unit, meeting room, floor - Dust swab	No asbestos fibres detected
18699 - 056 - 014	Dust on tape 100 x 50 x <1 mm	Organic fibres detected

prensa

Asbestos Bulk Sample Analysis Report

Lower B & B, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
	Basement, male toilet, floor & ledges - Dust swab	No asbestos fibres detected
18699 - 056 - 015	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Hyperbaric unit, main chamber room, windowsill - Dust swab	No asbestos fibres detected
18699 - 056 - 016	Dust on tape 100 x 50 x <1 mm	Organic fibres detected Synthetic Mineral Fibres detected
	Basement, Hyperbaric unit, main chamber room, on hyperbaric tank - Dust swab	No asbestos fibres detected
18699 - 056 - 017	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Hyperbaric unit, main chamber room, floor - Dust swab	No asbestos fibres detected
18699 - 056 - 018	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Hyperbaric unit, west change room, floor - Dust swab	No asbestos fibres detected
18699 - 056 - 019	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Hyperbaric unit, west change room, upper surfaces - Dust swab	No asbestos fibres detected
18699 - 056 - 020	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Hyperbaric unit, southwest corner office, windowsill - Dust swab	No asbestos fibres detected
18699 - 056 - 021	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Hyperbaric unit, south central Doctor's office, floor - Dust swab	No asbestos fibres detected
18699 - 056 - 022	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Hyperbaric unit, south central Doctor's office, windowsill - Dust swab	No asbestos fibres detected
18699 - 056 - 023	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, Hyperbaric unit, south central administration office, floor & windowsill - Dust swab	No asbestos fibres detected
18699 - 056 - 024	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, female toilet adjacent exit to external shared zone - Dust swab	No asbestos fibres detected
18699 - 056 - 025	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, B04, shelving - Dust swab	***Chrysotile (white asbestos) detected***
18699 - 056 - 026	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, B04, floor - Dust swab	No asbestos fibres detected
18699 - 056 - 027	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, lobby behind B06 & B07, floor - Dust	No asbestos fibres detected
18699 - 056 - 028	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, server room behind B07, floor - Dust swab	***Chrysotile (white asbestos) detected***
18699 - 056 - 029	Dust on tape 100 x 50 x <1 mm	Organic fibres detected
	Basement, server room behind B07, upper surfaces - Dust swab	No asbestos fibres detected
18699 - 056 - 030	Dust on tape 100 x 50 x <1 mm	Organic fibres detected

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Asbestos Bulk Sample Analysis Report

Lower B & B, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 056 - 031	Basement, B08, riser shaft, ledge - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 056 - 032	Basement, kitchenette behind B08, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 056 - 033	Basement, B02, risr shaft, ledge - Dust Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 056 - 034	Basement, B01, upper surfaces - Dust Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 056 - 035	Basement, lobby behind B09, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 056 - 036	Basement, office behind B10, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 056 - 037	Basement, switchboard cupboard surfaces Dust on tape 100 x 50 x <1 mm	***Chrysotile (white asbestos) detected*** Organic fibres detected
18699 - 056 - 038	Basement, room B01 (large store room), on pipework - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 056 - 039	Basement, room B12, on windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 056 - 040	Basement, room B11, on windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 056 - 041	Basement, room B12, on floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 056 - 042	Basement, lecture theatre, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected

Only the samples submitted for analysis have been considered in presenting these results.

Analysis performed in Prensa's RHH field laboratory, Hobart, Tas.

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C0134:CAP

10 August 2016

Tony Carton
Capital Insight
Level 3, Capita Building, 47 Liverpool Street
Hobart TAS 7000

Dear Tony,

Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Please find attached the asbestos bulk sample analysis results of the 23 samples collected by Cameron Phillips of Prensa Pty Ltd for Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000 on 4 August 2016 and received at the Prensa Pty Ltd laboratory (GF, 261-271 Wattletree Road, Malvern, VIC, 3144) on 5 August 2016. The samples were analysed on 10 August 2016 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories* .

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Vikas Gandhi
Asbestos Fibre Identifier

Corporate Site Number 19121. This document shall not be reproduced except in full.

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Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 055 - 001	F Block, Basement, Room B14/15, window sill - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 002	F Block, Basement, Room B14/15, shelves - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 003	F Block, Basement, Room B14/15, ceiling space - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 004	F Block, Basement, Room B13, window sill -Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 005	F Block, Basement, Room B12, window sill - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 006	F Block, Basement, Room B11, shelves -Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 007	F Block, Basement, Room B11, riser adjacent entry door, floor - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 008	F Block, Basement, Room B10, window sill - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Synthetic Mineral Fibres detected Organic fibres detected
18699 - 055 - 009	F Block, Basement, Room B10, floor - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 010	F Block, Basement, Room B09, window sill - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 011	F Block, Basement, Room B08, window sill - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 012	F Block, Basement, Room B08, riser adjacent entry door, floor - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 013	F Block, Basement, Room B08, server room, floor - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 014	F Block, Basement, Room B07, window sill - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 015	F Block, Basement, Room B06, window sill - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Synthetic Mineral Fibres detected Organic fibres detected
18699 - 055 - 016	F Block, Basement, Room B06, desk - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected
18699 - 055 - 017	F Block, Basement, Room B06, riser adjacent entry, door - Dust Dust on tape 60 x 50 x 1 mm	No asbestos fibres detected Organic fibres detected

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Asbestos Bulk Sample Analysis Report

Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
	F Block, Basement, Room B04, store room, floor - Dust	No asbestos fibres detected
18699 - 055 - 018	Dust on tape 60 x 50 x 1 mm	Organic fibres detected
	F Block, Basement, Room B02, kitchenette, floor - Dust	No asbestos fibres detected
18699 - 055 - 019	Dust on tape 60 x 50 x 1 mm	Organic fibres detected
	F Block, Basement, Room B01, store room, adjacent south eastern riser, floor - Dust	No asbestos fibres detected
18699 - 055 - 020	Dust on tape 60 x 50 x 1 mm	Organic fibres detected
	F Block, Basement, Room B01, store room, adjacent north eastern riser, floor - Dust	No asbestos fibres detected
18699 - 055 - 021	Dust on tape 60 x 50 x 1 mm	Organic fibres detected
	F Block, Basement, Room B01, store room, adjacent north western riser, floor - Dust	No asbestos fibres detected
18699 - 055 - 022	Dust on tape 60 x 50 x 1 mm	Organic fibres detected
	F Block, lift car, floor - Dust	No asbestos fibres detected
18699 - 055 - 023	Dust on tape 60 x 50 x 1 mm	Organic fibres detected

Only the samples submitted for analysis have been considered in presenting these results.

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C0134:PMK

14 August 2016

Tony Carton
Capital Insight Pty Ltd
Level 3, 47 Liverpool Street
Hobart TAS 7000

Dear Tony,

Asbestos Bulk Sample Analysis Report

F Block, GF, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Please find attached the asbestos bulk sample analysis results of the 20 samples collected by Cormac Donnelly & Paul Kenny of Prensa Pty Ltd for F Block, GF, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000 on 12 August 2016 and received at the Prensa Pty Ltd laboratory (GF, 5 Burwood Road, Hawthorn, VIC, 3122) on 12 August 2016. The samples were analysed on 12 August 2016 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories* .

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Alan Barker
Asbestos Fibre Identifier

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Asbestos Bulk Sample Analysis Report

F Block, GF, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 057 - 001	Switchboard cupboard, base of cupboard - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 002	Office behind library, windowsill (west) - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 003	Office behind library, windowsill (east) - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 004	Office behind library, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 005	Library, windowsill (south) - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 006	Library, windowsill (southeast) - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 007	Library, windowsill (east) - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 008	G15, floor Library, windowsill (southeast) - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 009	G16, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 010	G04, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 011	G04, riser shaft, ledge - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 057 - 012	G02, floor - Dust swab Dust on tape 100 x 50 x <1 mm	***Chrysotile (white asbestos) detected*** Organic fibres detected
18699 - 057 - 013	G13, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 014	G03, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 057 - 015	Switchboard cupboard, base of cupboard - Dust swab Dust on tape 100 x 50 x <1 mm	***Chrysotile (white asbestos) detected*** Organic fibres detected
18699 - 057 - 016	Switchboard cupboard, top of switchboard - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 057 - 017	G01, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 018	Corridor adjacent Keith Millingen Theatre, top of cupboard - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected

Asbestos Bulk Sample Analysis Report

F Block, GF, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 057 - 019	Male toilet, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 057 - 020	Male toilet, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected

Only the samples submitted for analysis have been considered in presenting these results.

Analysis performed in Prensa's RHH field laboratory, Hobart, Tas.

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C0134:PMK
18699-058 BSA NN 13082016 F Block L1.xlsm

14 August 2016

Tony Carton
Capital Insight Pty Ltd
Level 3, 47 Liverpool Street
Hobart TAS 7000

Dear Tony,

Asbestos Bulk Sample Analysis Report

F Block, L1, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Please find attached the asbestos bulk sample analysis results of the 33 samples collected by Cormac Donnelly & Paul Kenny of Prensa Pty Ltd for F Block, L1, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000 on 12 August 2016 and received at the Prensa Pty Ltd laboratory (GF, 5 Burwood Road, Hawthorn, VIC, 3122) on 12 August 2016. The samples were analysed on 12 August 2016 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories* .

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Alan Barker
Asbestos Fibre Identifier

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Asbestos Bulk Sample Analysis Report

F Block, L1, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 058 - 001	101, floor (south) - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 002	101, floor (north) - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 003	101, cabinet shelving - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 058 - 004	101, display cabinet - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 005	Cleaner's room/toilet, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 006	105, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 007	105, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 008	103, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 009	103, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 010	103, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 011	Switchboard cupboard, base of cupboard - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 058 - 012	Switchboard cupboard, top of switchboard - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 058 - 013	Formalin room, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 014	Reporting/Clinical conference room, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 015	Reporting/Clinical conference room, shelving - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 016	Tissue processing, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 058 - 017	Tissue processing, shelving - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 018	Tissue processing, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 019	115, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected

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Asbestos Bulk Sample Analysis Report

F Block, L1, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 058 - 020	115, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 058 - 021	Main laboratory, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 022	Main laboratory, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 023	Main laboratory, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 024	Immunohistology, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 025	North switchboard cupboard, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected Synthetic Mineral Fibres detected
18699 - 058 - 026	Zone 3, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 027	Zone 3, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 028	Zone 1, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 029	Zone 1, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 030	119, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 031	119, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 032	119, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 058 - 033	Male toilet, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected

Only the samples submitted for analysis have been considered in presenting these results.

Analysys performed in Prensa's RHH field laboratory, Hobart, Tas.

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C0134:PMK

14 August 2016

18996-059 BSA NN 13082016 F Block L2.xlsm

Tony Carton
Capital Insight Pty Ltd
Level 3, 47 Liverpool Street
Hobart TAS 7000

Dear Tony,

Asbestos Bulk Sample Analysis Report

F Block, L2, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Please find attached the asbestos bulk sample analysis results of the 43 samples collected by Cormac Donnelly & Paul Kenny of Prensa Pty Ltd for F Block, L2, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000 on 12 August 2016 and received at the Prensa Pty Ltd laboratory (GF, 5 Burwood Road, Hawthorn, VIC, 3122) on 12 August 2016. The samples were analysed on 12 August 2016 and the results are presented on the following page(s).

Prensa qualitatively analyses bulk samples for asbestos using polarising light microscopy and dispersion staining techniques in accordance with Prensa's PRLAB2002 Asbestos Identification Test Method, and in accordance with Australian Standard (AS) 4964 – 2004, *Method for the qualitative identification of asbestos in bulk samples* and AS ISO/IEC 17025 – 2005, *General requirements for the competence of testing and calibration laboratories* .

If you require further information please contact the Prensa office on (03) 9508 0100.

Regards,

Alan Barker
Asbestos Fibre Identifier

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Asbestos Bulk Sample Analysis Report

F Block, L2, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 059 - 001	205, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 002	205, on fume hood - Dust Swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 003	Lab freezer room, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 004	Corridor to dark room, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 005	Dark room, shelving - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 006	207, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 007	207, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 008	209, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 009	211, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 010	213, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 011	213, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 012	217, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 013	217, upper ducting - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 014	219, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 015	219, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 016	221, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 017	221, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 018	223, upper surfaces - Dust Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 019	225, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 020	225, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected

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Asbestos Bulk Sample Analysis Report

F Block, L2, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 059 - 021	225, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 022	227, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 023	229, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 024	229, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 025	231, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 026	233, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 027	235, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 028	235, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 029	220, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 030	220, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 031	PIMS room, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 032	North switchboard cupboard, top of switchboard - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 033	Male toilet, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 034	Female toilets, upper suraces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 035	218, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 036	214, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 037	214, floor, - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 038	208, upper shelving - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 039	206, upper surfaces - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 040	201, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected

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Asbestos Bulk Sample Analysis Report

F Block, L2, Royal Hobart Hospital, 48 Liverpool Street, Hobart, TAS 7000

Sample No	Sample Location / Description / Size	Result
18699 - 059 - 041	203, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 042	212, windowsill - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected
18699 - 059 - 043	212, floor - Dust swab Dust on tape 100 x 50 x <1 mm	No asbestos fibres detected Organic fibres detected

Only the samples submitted for analysis have been considered in presenting these results.

Analysis performed in Prensa's RHH field laboratory, Hobart, Tas.

Appendix C: Air Monitoring Certificates of Analysis

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13th August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.144
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	13th August 2016	**Sampled By:**	Ellie Jones

Laboratory and Testing Information

Sampling Type: Control Monitoring, which is monitoring using static or positional samples to measure the level of a hazardous substance in an area. Control monitoring is designed to assist in assessing the effectiveness of implemented control measures. Control monitoring is not representative of actual occupational exposures and should not be used for that purpose.

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories*.

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Prensa Signatory

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LA062	F Block, level 1, room 101, adjacent to door – on desk	08:07 – 09:26	1500	0.0 / 100	< 0.01
LA115	F Block, level 1, lift lobby – on cabinet	08:09 – 09:27	1500	3.0 / 100	< 0.01
LA069	F Block, level 1, laboratories, corridor – biopsy slide cabinet	08:14 – 09:28	1500	0.0 / 100	< 0.01
LA179	F Block, level 1, opposite bathrooms – on notice boards	08:16 – 09:29	1500	0.0 / 100	< 0.01
LA118	F Block, ground level, opposite lecture theatre – on cabinet	08:23 – 09:33	1500	1.0 / 100	< 0.01
LA240	F Block, ground level, room C13 – on window sill	08:27 – 09:37	1500	0.0 / 100	< 0.01
LA054	F Block, ground level, room G04 – on desk	08:30 – 09:39	1500	1.0 / 100	< 0.01
LA040	F Block, within northern corridor – on fire extinguisher	08:43 – 09:47	1500	0.0 / 100	< 0.01
LA046	F Block, level 3, adjacent female bathrooms – on wall rail	11:15 – 12:30	1500	0.0 / 100	< 0.01
LA069	F Block, level 3, corridor – on counter desk	11:16 – 12:31	1500	0.0 / 100	< 0.01
LA054	F Block, level 2, opposite room 201 – on bin	11:19 – 12:34	1500	0.0 / 100	< 0.01
LA240	F Block, level 2, room 217 – on window sill	11:21 – 12:35	1500	0.0 / 100	< 0.01
LA118	F Block, level 2, room 225 – on window sill	11:24 – 12:36	1500	0.0 / 100	< 0.01
LA179	F Block, level 2,adjacent room 235 – on fire extinguisher	11:27 – 12:37	1500	1.0 / 100	< 0.01
LA115	F Block, basement, room B01 – on wall key return	11:35 – 12:43	1500	0.0 / 100	< 0.01
LA062	F Block, basement, room B06 – on light	11:37 – 12:44	1500	0.0 / 100	< 0.01

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12th August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.141
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	12th August 2016	**Sampled By:**	Ellie Jones

Laboratory and Testing Information

Sampling Type: Control Monitoring, which is monitoring using static or positional samples to measure the level of a hazardous substance in an area. Control monitoring is designed to assist in assessing the effectiveness of implemented control measures. Control monitoring is not representative of actual occupational exposures and should not be used for that purpose.

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories*.

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LA061	F Block, level 1, tissue processing lab – on shelf	07:45 – 08:57	1500	2.0 / 100	< 0.01
LA075	F Block, level 1, cytology office – on shelf	07:46 – 08:58	1500	1.0 / 100	< 0.01
LA062	F Block, level 2, room 207 – on shelf	07:48 – 09:00	1500	0.0 / 100	< 0.01
LA051	F Block, level 2, room 218 – on microwave	07:49 – 09:01	1500	1.0 / 100	< 0.01
LA115	F Block, ground level, library, book row RC 521.K-RC 685.A – on shelf	08:15 – 09:25	1500	0.0 / 100	< 0.01
LA118	F Block, ground level, library, western quiet room – on window sill	08:16 – 09:26	1500	3.0 / 100	< 0.01
LA069	F Block, basement, opposite grief counsellor room – on notice board	08:32 – 09:41	1500	2.0 / 100	< 0.01
LA179	F Block, basement, opposite lecture theatre – on wall rail	08:35 – 09:43	1500	4.0 / 100	< 0.01
LA179	F Block, level 3, room 305 – on cabinet	10:29 – 11:44	1500	2.0 / 100	< 0.01
LA075	F Block, level 3, room 312 – on partition wall	10:31 – 11:45	1500	0.0 / 100	< 0.01
LA069	F Block, level 3 room 316 – on window sill	10:35 – 11:46	1500	0.0 / 100	< 0.01
LA115	F Block, level 3, plant room – on library unit	10:41 – 11:51	1500	4.0 / 100	< 0.01
LA061	F Block, level 3, room 327 – on window sill	10:47 – 11:54	1500	2.5 / 0.0	< 0.01
LA008	F Block, level 3, adjacent fire stairs – on fire hose reel	10:50 – 11:57	1500	2.5 / 100	< 0.01
LA054	F Block, level 3, student locker room – on window sill	10:53 – 12:00	1500	0.5 / 100	< 0.01
LA118	F Block, level 3, room 317 – on window sill	10:56 – 12:02	1500	0.0 / 100	< 0.01

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11th August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.140
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	11th August 2016	**Sampled By:**	Ellie Jones

Laboratory and Testing Information

Sampling Type: Control Monitoring, which is monitoring using static or positional samples to measure the level of a hazardous substance in an area. Control monitoring is designed to assist in assessing the effectiveness of implemented control measures. Control monitoring is not representative of actual occupational exposures and should not be used for that purpose.

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories*.

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LA115	F Block, level 3, within corridor, adjacent female bathroom – on wall rail	07:38 – 08:50	1500	0.0 / 100	< 0.01
LA179	F Block, level 3, kitchen area – on fridge	07:39 – 08:51	1500	0.0 / 100	< 0.01
LA062	F Block, level 1, immunohistology, centre of room – on shelving	07:45 – 08:55	1500	2.0 / 100	< 0.01
LA075	F Block, level 1, laboratories, adjacent sink – on shelving	07:46 – 08:56	1500	1.0 / 100	< 0.01
LA051	F Block, ground level, library, computer room – on desk	08:26 – 09:34	1500	0.5 / 100	< 0.01
LA377	F Block, ground level, adjacent lecture theatre – on cabinet	08:27 – 09:35	1500	1.0 / 100	< 0.01
LA062	F Block, level 2, room 207 – on desk shelf	*Void	Void	Void	Void
LA069	F Block, level 2, within corridor, opposite room 201 – on light test unit	09:50 – 11:02	1500	2.0 / 100	< 0.01
LA075	F Block, level 2, room 208 – on shelf	09:52 – 11:06	1500	0.5 / 100	< 0.01
LA115	F Block, level 2, room 218 – on pigeon holes	09:54 – 11:07	1500	0.0 / 100	< 0.01
LA069	F Block, level 2 room 235 – on window sill	09:56 – 11:10	1500	0.0 / 100	< 0.01
LA179	F Block, level 2, within corridor, adjacent fire stairs – on fire hose reel	09:58 – 10:01	1500	0.0 / 100	< 0.01
LA118	F Block, level 2, room 221 – on window sill	10:00 -11:12	1500	0.0 / 0.0	< 0.01

* Please note: Filter LA062 was void due to exceeding the ± 10% flow rate variation criteria.

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10th August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.139
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	10th August 2016	**Sampled By:**	Paul Kenny

Laboratory and Testing Information

Sampling Type: Control Monitoring, which is monitoring using static or positional samples to measure the level of a hazardous substance in an area. Control monitoring is designed to assist in assessing the effectiveness of implemented control measures. Control monitoring is not representative of actual occupational exposures and should not be used for that purpose.

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting'* with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories*.

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Accredited for compliance with ISO/IEC 17025

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LB389	F Block, level 4, western end – on temporary electrical box	07:48 – 14:48	1600	2.0 / 100	< 0.01
LB025	F Block, level 4, eastern end – on temporary electrical box	07:49 – 14:49	1600	1.0 / 100	< 0.01
LA069	F Block, level 3, within corridor, adjacent female bathroom – on wall rail	14:38 – 15:48	1500	3.5 / 100	< 0.01
LA061	F Block, level 3, within kitchen – on fridge	14:39 – 15:49	1500	1.0 / 100	< 0.01
LA040	F Block, level 2, within corridor, adjacent room 209 – on wall rail	14:42 – 15:52	1500	1.0 / 100	< 0.01
LA118	F Block, level 2, within room 218 – on pigeon holes	14:43 – 15:53	1500	1.0 / 100	< 0.01
LA115	F Block, level 1, room 101, northern corner – on display table	07:55 – 08:59	1500	0.0 / 100	< 0.01
LA179	F Block, level 1, room 105 – on shelving	08:39 – 09:48	1500	0.5 / 100	< 0.01
LA008	F Block, level 1, room 103 – on locker	08:40 – 09:51	1500	0.5 / 100	< 0.01
LA051	F Block, level 1, room 119, adjacent door – on cabinet	08:42 – 09:52	1500	1.5 / 100	< 0.01
LA062	F Block, ground level, library, book row RC 963 - RD 101.A – on shelf	08:47 – 10:00	1500	1.0 / 100	< 0.01
LA064	F Block, ground level, library, western quiet study room – on window sill	08:48 – 10:01	1500	1.0 / 100	< 0.01
LA075	F Block, level 1, room 114, adjacent door – on shelving	09:55 – 11.08	1500	0.0 / 100	< 0.01
LA046	F Block, level 1, room 113 – on shelving	09:56 – 11:09	1500	4.5 / 100	< 0.01
LA118	F Block, level 1, room 117 – on shelving	09:57 – 11:10	1500	0.0 / 100	< 0.01
LA061	F Block, level 1, room 115 – on shelving	10:09 -11:11	1500	1.0 / 0.0	< 0.01

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10th August 2016

Airborne Asbestos Fibre Monitoring Report V2

Attention to:	Tony Carton	**Report No.:**	18699.138
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Clearance
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	9th August 2016	**Sampled By:**	Paul Kenny

Laboratory and Testing Information

Sampling Type: *Clearance Monitoring, which is monitoring conducted to determine whether the airborne asbestos fibre level is less than 0.01 f/mL within the area where the asbestos removal work was performed, with this information to be included in a 'clearance certificate', where required under 'Section 3.11 Air monitoring' of the How to Safely Remove Asbestos Tasmanian Code of Practice, 2012 (Safe Work Australia).*

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories.*

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Please note: This report supersedes report 18699.138 CL 09082016_Air Monitoring F Block, dated 9th August 2016. This is to amend a transcription error.

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LA062	F Block, level 3, room 316, back room – on cabinet	14:45– 15:50	1500	0.0 / 100	< 0.01

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9th August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.137
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	9th August 2016	**Sampled By:**	Paul Kenny

Laboratory and Testing Information

Sampling Type: Control Monitoring, which is monitoring using static or positional samples to measure the level of a hazardous substance in an area. Control monitoring is designed to assist in assessing the effectiveness of implemented control measures. Control monitoring is not representative of actual occupational exposures and should not be used for that purpose.

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories*.

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LA062	F Block, ground level, book row RC 963 – RD101.A – on book shelf	08:12 – 09:15	1500	0.0 / 100	< 0.01
LA107	F Block, ground level, library, quiet study room – on window sill	08:13 – 09:16	1500	1.0 / 100	< 0.01
LA040	F Block, level 1, room 101, northern corner – on display table	08:41 – 09:46	1500	1.0 / 100	< 0.01
LA069	F Block, level 1, Room 103 – on locker	08:48 – 09:51	1500	0.0 / 100	< 0.01
LA118	F Block, level 1, Room 119, adjacent door – on cabinet	08:57 – 09:58	1500	0.0 / 100	< 0.01
LA051	F Block, level 1, Room 113 – on shelf	09:25 – 10:26	1500	0.0 / 100	< 0.01
LA075	F Block, level 1, Room 111 – on shelf	09:24 – 10:25	1500	0.5 / 100	< 0.01
LA008	F Block, level 2, western end, within corridor adjacent Room 201 – on emergency light unit	11:40 – 12:41	1500	0.5 / 100	< 0.01
LA115	F Block, level 2, eastern end, within corridor adjacent fire stairs – on fire hose reel	11:45 – 12:46	1500	0.5 / 100	< 0.01
LA061	F Block, level 3, western end, within corridor adjacent female toilets – on wall rail	11:47 – 12:48	1500	1.0 / 100	< 0.01
LA179	F Block, level 3, eastern kitchen – on shelving	11:48 – 12:49	1500	0.0 / 100	< 0.01
LA549	F Block, level 4, within work zone, western end of corridor – on temporary electrical box	12:33 – 14:50	3000	2.0 / 100	< 0.01
LA580	F Block, level 4, within work zone, eastern end of corridor – on temporary electrical box	12:34 – 14:51	3000	1.0 / 100	< 0.01

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8th August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.136
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	8th August 2016	**Sampled By:**	Ellie Jones

Laboratory and Testing Information

Sampling Type: Control Monitoring, which is monitoring using static or positional samples to measure the level of a hazardous substance in an area. Control monitoring is designed to assist in assessing the effectiveness of implemented control measures. Control monitoring is not representative of actual occupational exposures and should not be used for that purpose.

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories.*

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LA069	F Block, ground floor, library, shelving row RC 963 – RD 101A – on book shelving	10:02 – 11:03	1500	0.0 / 100	< 0.01
LA101	F Block, ground floor, quiet study room, north western perimeter – on window sill	10:04 – 11:04	1500	1.0 / 100	< 0.01

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8th August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.135
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Clearance
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	8th August 2016	**Sampled By:**	Ellie Jones

Laboratory and Testing Information

Sampling Type: Clearance Monitoring, which is monitoring conducted to determine whether the airborne asbestos fibre level is less than 0.01 f/mL within the area where the asbestos removal work was performed, with this information to be included in a 'clearance certificate', where required under 'Section 3.11 Air monitoring' of the *How to Safely Remove Asbestos Tasmanian Code of Practice, 2012 (Safe Work Australia)*..

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories.*

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

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Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LA051	F Block, Level 2, Room 210 – on window sill	09:52 – 10:56	1500	0.0 / 100	< 0.01
LA118	F Block, Level 2, Room 222 – on window sill	09:54 – 10:57	1500	1.0 / 100	< 0.01

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8th August 2016

Airborne Asbestos Fibre Monitoring Report

Attention to:	Tony Carton	**Report No.:**	18699.134
Client Name:	Capital Insight Pty Ltd	**Sampling Type:**	Control
Client Address:	47 Liverpool Street, Hobart Tasmania	**Site Address:**	Royal Hobart Hospital – 48 Liverpool Street, Hobart Tasmania
Date Sampled:	8th August 2016	**Sampled By:**	Paul Kenny

Laboratory and Testing Information

Sampling Type: Control Monitoring, which is monitoring using static or positional samples to measure the level of a hazardous substance in an area. Control monitoring is designed to assist in assessing the effectiveness of implemented control measures. Control monitoring is not representative of actual occupational exposures and should not be used for that purpose.

Test Method: Prensa Test Method 'PRLAB2003 – *Asbestos and Synthetic Mineral Fibre (SMF) Counting*' with reference to the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres.* 2nd Edition [NOHSC: 3003 (2005)] and AS ISO/IEC 17025 – 2005, Australian Standard, *General requirements for the competence of testing and calibration laboratories*.

Laboratory Address: Royal Hobart Hospital - 48 Liverpool Street, Hobart Tasmania.

This document shall not be reproduced, except in full.

Shane Collins

Prensa Signatory

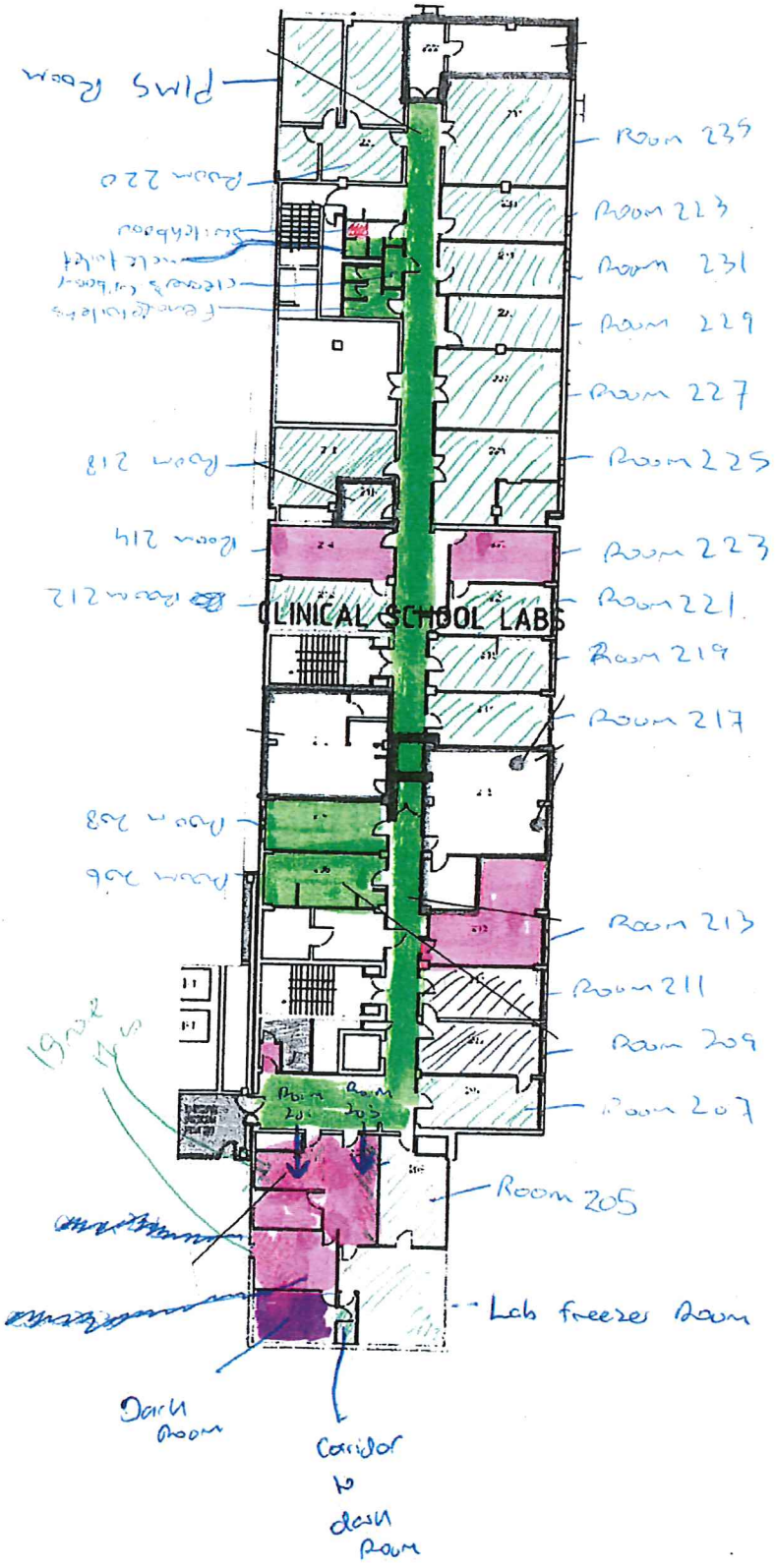
prensa

Airborne Asbestos Monitoring Results

Job Location: Royal Hobart Hospital – F Block

Filter No.	Sample Location	Sample Period (start – finish)	Avg. Flow (mL/min)	Fibres / Fields	Fibres per mL of air
LB129	F Block, level 3, corridor, adjacent to female toilets – On wall rail	07:40 – 14:56	1600	1.0 / 100	< 0.01
LB355	F Block, level 3, within corridor adjacent Room 317	07:41 – 14:57	1600	1.5 / 100	< 0.01
LB985	F Block, level 3, kitchen area – On fridge	07:42 – 14:58	1600	0.0 / 100	< 0.01

Appendix D: Marked Up Floor Plans



SEALED Coffer

EXPOSED Coffer

FCS

Plaster

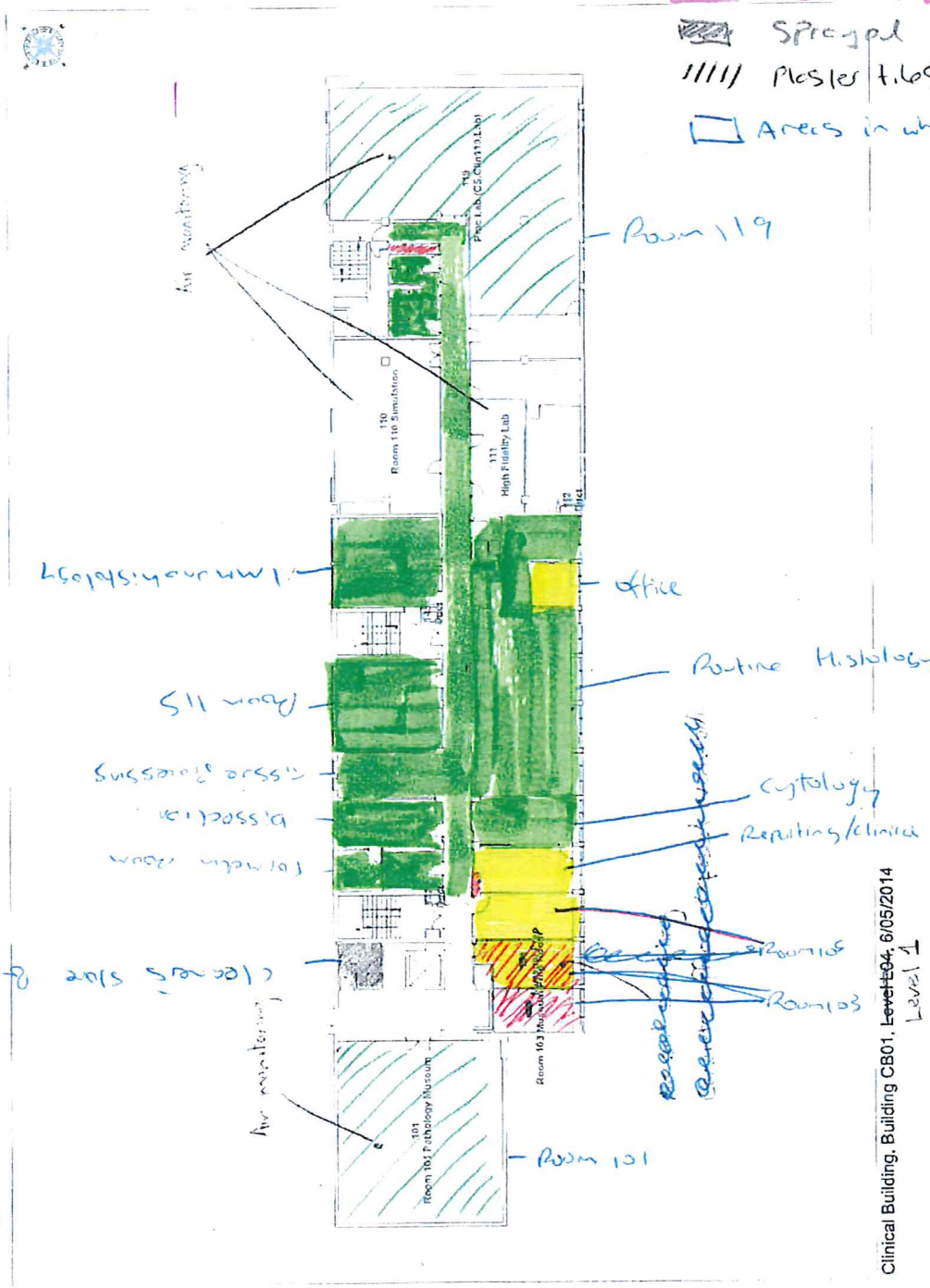
SMF

Slats

SPRAYED Concrete

Plaster tiles

Areas in white — NO access



Plant room 18

This floor segments - 8

UNIVERSITY CLINICAL SCHOOL

GROUND FLOOR

UNIVERSITY OF TASMANIA

ACTION IN EVENT OF FIRE

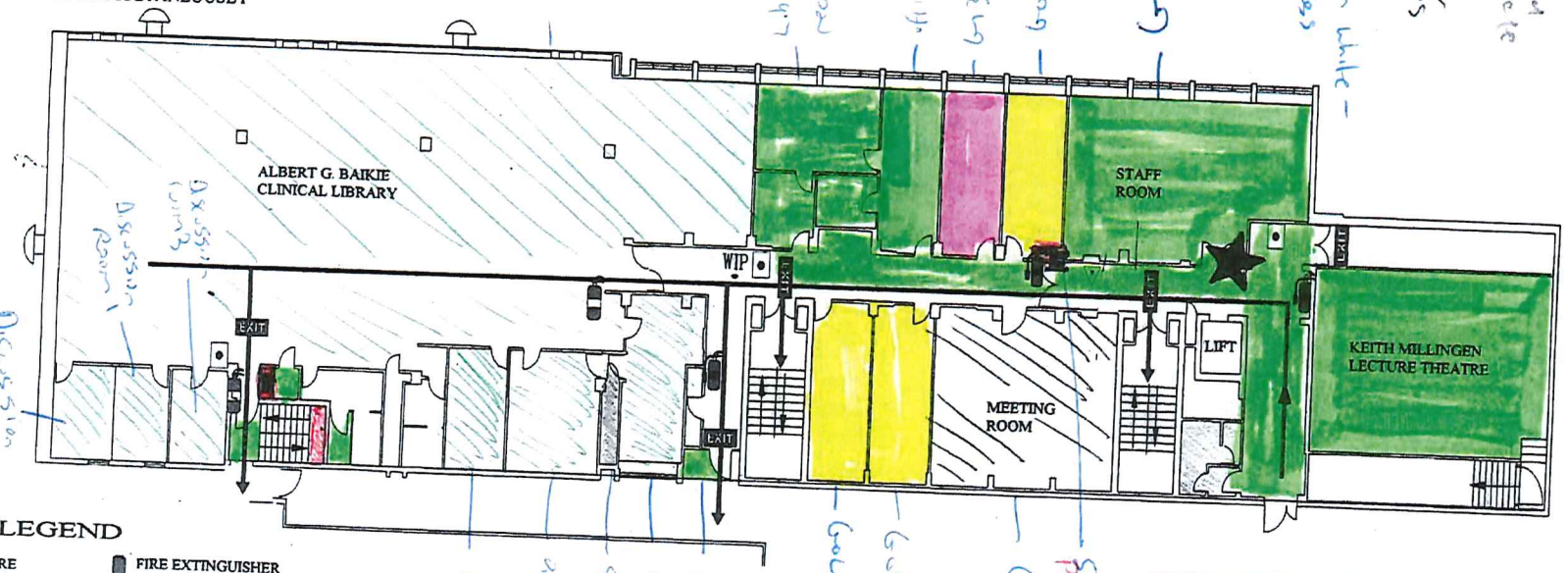
R Remove yourself and others from the immediate danger area.

A Alert others
- Activate nearest Manual Call Point (Break Glass Alarm)
- Contact Fire Brigade "000"
- Contact Chief Warden

C Confine fire and smoke by closing doors and windows (IF SAFE TO DO SO)

E Extinguish by operating portable fire fighting equipment (IF APPROPRIATELY TRAINED & SAFE TO DO SO)

THE ABOVE FUNCTIONS MAY BE CARRIED OUT SIMULTANEOUSLY



LEGEND

- YOU ARE HERE
- FIRE EXTINGUISHER -DRY CHEMICAL
- FIRE INDICATOR PANEL
- FIRE HYDRANT
- FIRE DOOR
- SMOKE DOOR
- EXIT SIGN
- PREFERRED EXIT PATH
- FIRE EXTINGUISHER AIR/WATER
- FIRE EXTINGUISHER - CO_2
- HOSE REEL
- MANUAL CALL POINT (BREAK GLASS ALARM)
- EXIT DIRECTION
- FIRE BLANKET
- WARDENS PHONE

REVISION	DATE

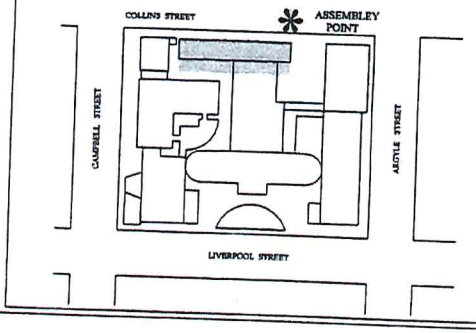
DATE JUNE 2001
DRAWN BY CFT
REF CSG.DWG

CLINICAL SCHOOL GROUND FLOOR

NORTH

Developed by TasFire TRAINING

SITE PLAN



Areas in white - No access

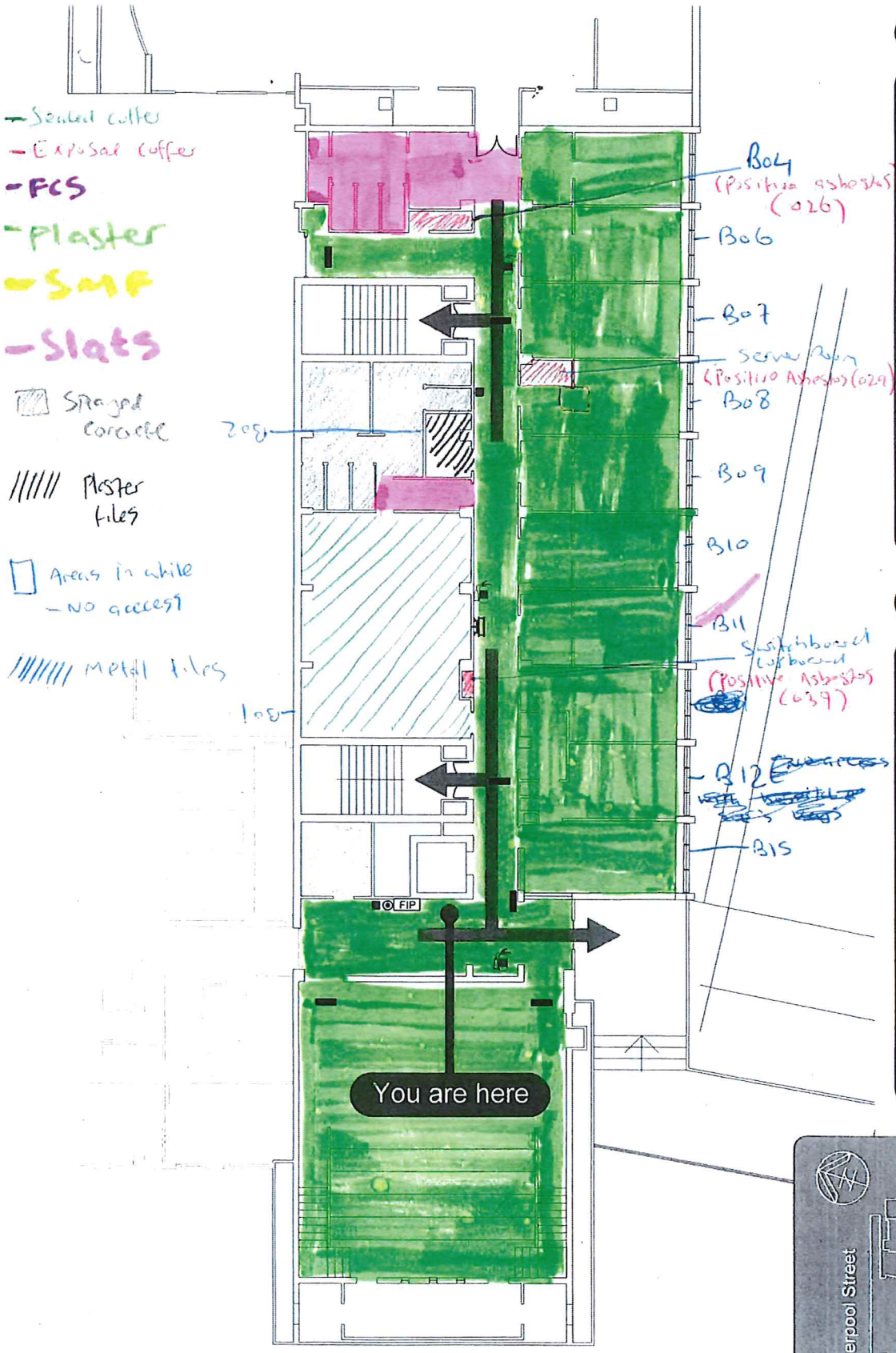
Plaster tiles

Sprayed Concrete

Plaster

fcs

Exposed coffer



Legend

- EWIS light
- Exit sign
- Fire blanket
- FIP — Fire Indicator Panel
- Fire Hose Reel
- Fire Hydrant

Fire extinguishers
- dry chemical
- carbon dioxide
- foam
- wet chemical

Doors
- fire
- smoke

- Manual Call Point (Break glass alarm)
- Emergency door release
- Wardens phone

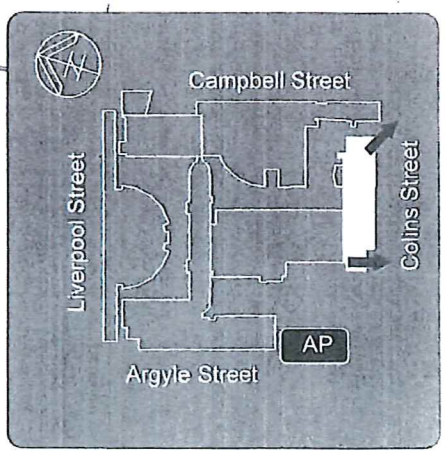
Action

Remove yourself and others from the immediate danger

Alert others by
- Activating the nearest Manual Call Point (Red Break Glass Alarm)
- Dial 6222 7135 (222) and report Smoke/Flames State building, location and name
- Inform your Warden

Confine fire and smoke by closing doors and windows if safe to do so

Evacuate.
Extinguish by operating portable fire fighting equipment if trained and appropriately safe to do so.
The above functions may be carried out simultaneously



EVACUATION DIAGRAM

Tasmanian Health Organisation - South
Royal Hobart Hospital

Basement Level F Block

Assembly Point
Argyle Street unless otherwise directed by Chief Warden