



PROTECTING HEALTH | MITIGATING LOSS

Damien Louis  
38 Black Street  
BRIGHTON VIC 3186

JOB NUMBER: J18829

19 November 2018

Dear Damien,

RE: BIOLOGICAL HEALTH SERVICES REPORT PEER REVIEW – ‘SPURLING HOUSE’ 38 BLACK STREET, BRIGHTON VICTORIA 3186

This letter has been prepared for Damien Louis as a peer review and interpretation of the Biological Health Services (BHS) report titled Microbiological Report Summary of Brick and Mortar and Wall Void Testing (report dated 24 October 2018). This was performed by Brian Murphy, Certified Occupational Hygienist (COH)<sup>®</sup> of EHS Assess on 16 November 2018.

### 1 CONSULTANT PROFILE & EXPERTISE

Brian has a Masters of Science - Occupational Health and Safety and a Bachelor of Science (Hons) in Chemistry with 12 years' experience in the field of risk management as an occupational hygienist. Brian is a Certified Occupational Hygienist (COH)<sup>®</sup> and a Full Member (MAIOH) of the Australian Institute of Occupational Hygiene (AIOH), this is recognition of the highest level of professional expertise by the AIOH and international agencies. In 2014 Brian was awarded Council-certified Microbial Consultant (CMC) and Indoor Environmental Consultant (CIEC) from the American Council for Accredited Certification (ACAC). In 2017, Brian became the only occupational hygienist in Australia to be a registered 'Third Part Evaluator' (RTPE #013 internationally). An RTPE speaks to the needs of current standard for water damage and mould remediation. Amongst Brian's areas of expertise is building science, contaminated facilities, health risk assessment (HRA), exposure assessments and anticipation, recognition, evaluation and control of physical, chemical and biological hazards in the built environment. Brian is an active member of the AIOH, Restoration Industry Association (RIA), Indoor Air Quality Association (IAQA) and Specialised Cleaning & Restoration Industry Association Inc (SCRIA).

Brian is a contributing author to Australian Master Work Health and Safety Guide (2<sup>nd</sup> Edition) co-authored with legal firm Herbert Smith Freehills and published by CCH Australia. In 2017, Brian co-authored the winning 'Best Conference Paper' at the Australian Institute of Occupational Hygiene 35<sup>th</sup> Annual Conference for the paper titled 'Workplace Inhalation Exposure to Ethanol Affecting Road Side Breath Testing'.

Brian routinely provides expert witness services on physical, chemical and biological contamination in the built environment, specifically water damaged/mould affected buildings and clandestine drug laboratories.

### 2 EXCLUSIONS, LIMITATIONS

EHS Assess performed a desktop review only of documentation provided. While EHS Assess have attended this property in the past (approximately March 2016), EHS Assess have not attended the property as part of this review. To avoid influencing interpretation of the recent assessment findings, the BHS report provided to EHS Assess has had the recommendation sections removed. EHS Assess have been requested to independently review the findings and provide remediation recommendations for the brick structure.

### 3 BHS REPORT SYNOPSIS OF FINDINGS – EHS ASSESS INTERPRETATION

Form a review of the test results performed on the brickwork of the property, EHS Assess provide the following commentary.



1300 899 747



info@ehsassess.com.au



www.ehsassess.com.au



PO Box 204, Parkville VIC 3052

- A large dataset has been obtained (118 brick samples from the property, including 10 control samples) over a 5-day period, representative of multiple areas of the property to assess microbial growth into the brick itself, into the spaces between and behind each brick and into the mortar holding each brick in place within the wall.
- The analytical test results for the 108 bricks rate the microbial contamination as '**HIGH**' hygiene (contaminated) with dominant species and >50 colonies present of heavy microbial loading and **UNACCEPTABLE**, compared with **LOW** hygiene and **NORMAL** ecology for control bricks.
- Of note, BHS conclude that many bricks had visible mould mycelium inside the brick (which was unexpected) and known mycotoxin producers were identified. Mycotoxins are toxic compounds that are naturally produced by certain types of moulds (fungi) and exposure can result in health effects.
- Overall, based on a review of the findings of the BHS Report, EHS Assess can conclude that there is overwhelming evidence to suggest that mould growth exists on and within brickwork, mortar and wall voids. While a wall void is not considered a conditioned living space, nor indicative of occupant's actual exposure, pathways of air movement through the building structure is likely to draw contaminants into the building envelope if reinstated in its current state.

#### 4 DISCUSSION & RECOMMENDATIONS

Applying the assessment criteria set out in *ANSI/IICRC S520 Standard and Reference Guide for Professional Mold Remediation (2015)*, EHS Assess can conclude that the property structure (brick itself, spaces between and behind bricks and the mortar holding bricks) can be considered '**Condition 3 – actual mould**'. *ANSI/IICRC S520* is a peer reviewed, scientific consensus document and considered, internationally, to be the standard of care for water damage and remediation. 'Condition 3 – actual mould' is defined as an indoor environment contaminated with the presence of actual mould growth and associated spores where actual growth includes growth that is active or dormant, visible or hidden.

As per the requirements of *ANSI/IICRC S520*, source removal of mould contamination should always be the primary means of remediation. Attempts to kill or encapsulate mould are not adequate to solve the problem (ACGIH,1999)<sup>1</sup>. While source removal of mould from the exposed outer surfaces of brickwork could be achieved through abrasive blasting methods or similar, this cannot be successfully achieved for the microbial growth into the brick itself, into the spaces between and behind each brick and into the mortar holding each brick in place within the wall. Based on the requirements of *ANSI/IICRC S520* and our professional experience on assessment and remediation of water damaged building, it is the opinion of EHS Assess that remediating these bricks in situ in their current form is unlikely to be successful and an unconditional Post Remediation Verification (PRV) (commonly referred to as a 'clearance' following mould remediation works) could not be provided by EHS Assess. Therefore, considering the findings, demolition of the brickwork is likely required.

If any further information is required or if you have any queries regarding this information, please do not hesitate to contact me on 1300 899 747.

Yours sincerely,

A handwritten signature in black ink that reads "Brian Murphy". The signature is fluid and cursive, with the first name being more prominent.

**Brian Murphy**

**Managing Director & Certified Occupational Hygienist (COH)<sup>®</sup>**

<sup>1</sup>ACGIH (1999). Bioaerosols: Assessment and Control. 16.2.3. American Conference of Governmental Industrial Hygienists, Cincinnati, OH.

