

# Air Sampling and Analysis for Mold in Hills Building UMass

Christine Rogers, PhD  
Environmental Health Science  
SPHHS  
&  
Environmental Health & Safety  
UMass

## Re-evaluate Rooms 121, 122, 129 Hills North

### Introduction

A re-evaluation of rooms 121, 122, 129 of Hills North was conducted for airborne mold on January 12, 2012. This re-evaluation occurs after removal of carpet, abatement of floor and re-tiling.

### Methods

Air samples were collected for mold analysis using a BioPump Plus sampler that operated at a verified flow rate of 15 L/min and a 5-minute sample (0.075 m<sup>3</sup> total volume) was collected in an Air-O-Cell cassette. One sample was taken outdoors for comparison with indoor air samples. Collection media in the cassettes were analyzed microscopically by PAACB certified spore analysts at 400X magnification. The whole trace was enumerated and counts were converted to concentration and expressed as the number of spores per cubic meter of air (spores/m<sup>3</sup>). The lower limit of detection was 13.3 spores/m<sup>3</sup> of air

### Results

#### Outdoors –

Ascospores	13.3
Unknown	13.3
Pollen	13.3 * not included in total
<u>Hyphal fragments</u>	<u>13.3 * not included in total</u>
Total	26.6 spores/m <sup>3</sup>

Light amount of airborne particles

#### Room 121 – post carpet removal

<i>Penicillium/Aspergillus</i> -like	66.7
Basidiospores	26.7
Ascospores	13.3
<i>Cladosporium</i>	13.3
Unknown	26.7
<u>Hyphal fragments</u>	<u>13.3 * not included in total</u>
Total	146.7 spores/m <sup>3</sup>

Light amount of airborne particles

Room 122 – post carpet removal

Ascospores	107
<i>Cladosporium</i>	80
Unknown	26.7
Total	213.7spores/m <sup>3</sup>

Light amount of airborne particles

Room 129 – post carpet removal

<i>Cladosporium</i>	93.3
<i>Penicillium/Aspergillus</i> -like	93.3
<i>Ulocladium</i> -like	53.3
<i>Chaetomium</i>	13.3
Smut	13.3
Unknown	26.7
Trichomes (plant hairs)	13.3 * not included in total
Hyphal fragments	40 * not included in total
Total	293.2

Moderate amount of airborne particles

### Interpretation

Spore concentrations outdoors are at seasonally low levels making indoor-outdoor comparisons less useful. Spore concentrations in all rooms have been reduced to normal levels. Some spore types found in room 129 are moisture loving types giving a slight hint that there may be a small moisture source still present or cleaning may be required. However, no spore types are at elevated levels.

### Recommendation

Visual inspection of room 129 is recommended to check for any small source of moisture or areas that may need to be cleaned. If none found, recommend re-occupation of these rooms.