December 30, 2014

Clemson University
310 Klugh Avenue
Clemson, SC 29634

Attn: Mr. W. Robert Newnerry, IV
E: wnewber@clemson.edu

Re: Limited Microbiological Air Sampling
Clemson University
Facilities Building – Basement Flooding
Clemson, South Carolina
Terracon Project No. 86127158

Dear Mr. Newberry:

Terracon Consultants, Inc. (Terracon) conducted limited microbiological air sampling in select areas of the basement of the Facilities building located on Clemson University's main campus in Clemson, South Carolina. It is our understanding that over the weekend of November 22nd and 23rd, 2014 water flooded a small area of the basement in the Facilities building. Terracon was requested to conduct airborne microbiological sampling for non-viable and viable fungi. The investigation was performed in general accordance with our IDC with Clemson University.

Air samples were collected using a calibrated vacuum pump at a flow rate of 15 liters per minute (LPM) for 5 minutes at each location. Samples were collected on an Air-O-Cell™ spore trap cassette specifically designed for the collection of airborne mold spores at representative indoor and outdoor sample locations. Samples were analyzed by Southeastern Environmental Microbiology Laboratories, Inc. (SEEML), accredited by the American Industrial Hygiene Association (AHIA®) Laboratory Accreditation Programs, LLC under the Environmental Microbiology Laboratory Accreditation Program (EMLAP) (#173667). The results are reported as total fungal spore concentrations per cubic meter of air (spores/$m^3$). The laboratory analytical report is included in Appendix A.

Clemson University additionally requested Terracon to collect cultural fungal air samples. These were collected using Andersen® sampler, calibrated at a flow rate of 28.3 liters/minute, for 2-3 minutes. Sterile culture media (malt extract agar) specific for typical airborne fungi were provided by the analytical laboratory. Samples were collected at representative indoor and outdoor sample locations. Samples were analyzed by SEEML, accredited by the AHIA® Laboratory Accreditation Programs, LLC under the EMLAP (#173667). The results are reported as total colony forming units per cubic meter of air (CFU/$m^3$). The laboratory analytical report is included in Appendix A.

There are no state or federal exposure limits established for fungal aerosols. There are currently no regulatory standards or medically based threshold limit or dose-response relationships for exposure to airborne or surface concentrations of mold spores. Terracon relies upon experience, professional judgment, current scientific literature, guidelines and recommendations made by professional organizations and experts, and statistical methods in interpreting mold sampling results.

Spore trap air sampling was conducted in storage areas, cubicle style office spaces, break room/kitchen, and outdoors. The total fungal spore concentrations inside the building were below those observed at the outdoor location. The types of fungal spores identified in indoor air were generally similar to those found in outside air. The analytical results are presented in Appendix A.

Spore Trap Sample Results, November 25, 2014:

| **Sample #** | **AS-1** | **AS-2** | **AS-3** | **AS-4** | **AS-5** | **AS-6** | **AS-7** |
|---|---|---|---|---|---|---|---|
| **Location** | **Rm. B104D 1** | **Rm. B104D** | **Rm. B104** | **Rm. B104A** | **Rm. B103** | **B100** | **Outdoors** |
| **Spore Type** | **Spores/m$^3$** | **Spores/m$^3$** | **Spores/m$^3$** | **Spores/m$^3$** | **Spores/m$^3$** | **Spores/m$^3$** | **Spores/m$^3$** |
| Ascospores | 39 | — | 39 | — | 78 | — | 416 |
| Aspergillus/ Penicillium | — | 156 | 130 | 78 | 39 | — | — |
| Basidiospores | 169 | 182 | 286 | 182 | 338 | 39 | 1,650 |
| Cladosporium | 338 | 195 | 390 | 481 | 377 | 130 | 169 |
| Curvularia | — | — | — | — | — | — | 13 |
| Myxomycetes/ Perconia/Smut | — | — | 26 | — | — | — | 39 |
| Zygomycetes | — | — | 13 | — | — | — | — |
| **Total** | **546** | **533** | **884** | **741** | **832** | **169** | **2,290** |

Viable air sampling was conducted in storage areas, cubicle style office spaces, an adjacent hallway, and outdoors. The total fungal spore concentrations inside the building were below those observed at the outdoor location. The analytical results are presented in Appendix A.

Viable Air Sample Results, November 25, 2014:

| **Sample #** | **VS-1** | **VS-2** | **VS-3** | **VS-4** | **VS-5** | **VS-6** | **VS-7** |
|---|---|---|---|---|---|---|---|
| **Location** | **Rm. B104D 1** | **Rm. B104D** | **Rm. B104** | **Rm. B104A** | **Rm. B103** | **B100** | **Outdoors** |
| **Spore Type** | **CFU/m$^3$** | **CFU/m$^3$** | **CFU/m$^3$** | **CFU/m$^3$** | **CFU/m$^3$** | **CFU/m$^3$** | **CFU/m$^3$** |
| *Aspergillus versicolor sp.* | 21 | — | — | — | 7 | — | — |
| *Aspergillus niger sp.* | — | — | 7 | — | — | — | — |
| *Penicillium sp.* | 35 | 28 | 21 | 28 | — | 7 | — |
| *Cladosporium sp.* | 42 | 35 | 84 | 98 | 42 | 238 | 532 |
| Non-sporulating Fungi | — | — | — | 14 | — | 14 | 7 |
| *Rhizopus sp.* | 7 | 7 | 7 | — | — | — | — |
| Yeast | — | — | — | — | 7 | — | — |
| **Total** | **105** | **70** | **119** | **140** | **56** | **259** | **539** |

This investigation was conducted at the subject site on November 25, 2014 based on information provided to Terracon relating to building conditions. Terracon did not attempt to identify every potential exposure or hazard present in the subject building. Destructive sampling or testing to inspect interior wall cavity spaces or mechanical enclosures was not within the scope of work for this project.

This investigation was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions, and recommendations expressed in this report are based on conditions observed during our investigation. Many factors, such as weather conditions, building occupancy, ventilation patterns, and seasonal variations in fungal concentrations or local sources of volatile chemicals, can affect the conditions observed. The information contained in this report should not be relied upon to represent conditions that existed prior to or after this investigation. Terracon does not warrant the services of regulatory agencies, laboratories, or other third parties supplying information that may have been used in the preparation of this report.

Terracon appreciates the opportunity to provide this service to Clemson University. If you have any questions regarding this limited asbestos sampling report, please contact the undersigned at 864-292-2901.

Sincerely,
**Terracon Consultants, Inc.**

Stephen N. Ellis
Project Professional

Jeffrey Gurrie
Senior Project Industrial Hygienist

Attachments: Laboratory Results

# ATTACHMENT A

## Laboratory Results

SEEML Reference Number:
141125059

**Southeast Environmental Microbiology Laboratories, Inc.**
506-A Laurens Rd
Greenville, SC 29607
Phone: (864) 233-3770
FAX: (864) 233-3779

The information and data for **Terracon** has been checked for thoroughness and accuracy. The following reports are contained within this document:

- ☐ Direct Exam Report
- ☒ Spore Trap Report
- ☐ RODAC / Contact plate Report
- ☐ Andersen Fungal Report
- ☐ Quantitative Direct Exam Report
- ☐ Quantitative Fungal Report

Lab Manager Review *Sam Kalaf* Date: 11/25/14

Thank you for using SEEML laboratories, Inc. We strive to provide superior quality and service.
SEEML laboratories, Inc. are AIHA (American Industrial Hygiene Association) Environmental Microbiology Accredited laboratory for only fungal analysis Air-Direct Examination (EMLAP # 173667).

The data within this report is reliable to three significant figures. The third significant figure is technically unjustified. In this instance, the third figure is reported as an estimate to facilitate the interpretation by the customer.

Confidentiality Notice:
The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of the document(s) is strictly prohibited. If you have received this document in error, please immediately notify us by telephone to arrange for its return. Thank you.

Guidelines for Interpretation:
No accepted quantitative regulatory standards currently exist by which to assess the health risks related to mold and bacterial exposure. Molds and bacteria have been associated with a variety of health effects and sensitivity varies from person to person.
Several organizations, including: the American Conference of Government Industrial Hygienists (ACGIH); the American Industrial Hygiene Association (AIHA); the Indoor Air Quality Association (IAQA); the United States Environmental Protection Agency (USEPA); the Centers for Disease Control (CDC), as well as the California Department of Health Services (CADHS), have all published guidelines for assessment and interpretation of mold resulting from water intrusion in buildings.

Interpretation of the data and information within this document is left to the company, consultant, and/or persons who conducted the fieldwork.

# Spore Trap Report

| | |
|---|---|
| Attention: Jeff Gurrie | Date Sampled: 11/25/14 |
| Terracon | Date Received: 11/25/14 |
| 3534 Rutherford Road | Date Analyzed: 11/25/14 |
| Taylors, SC 29687 | Date Reported: 11/25/14 |
| | Date Revised: |
| | Project Name: CU- Maintenance/ EHS |
| | Project Address: Clemson, SC. |
| | SEEML Reference # : 141125059 |

**TEST METHOD: DIRECT MICROSCOPY EXAMINATION AT 400X (100% OF TRACE ANALYZED) SEEML SOP 1**

| Client Sample ID | AS-1 | | | AS-2 | | | AS-3 | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | B104D1 | | | B104D | | | B104 | | |
| Lab Sample ID | 141125059-167 | | | 141125059-168 | | | 141125059-169 | | |
| Detection Limit (spores/$m^3$) | 13 | | | 13 | | | 13 | | |
| Hyphal Fragments | 4 | 52 | | 2 | 26 | | 7 | 91 | |
| Pollen | | | | | | | | | |
| Spore Trap Used | A-O-C | | | A-O-C | | | A-O-C | | |
| | raw ct. | spores/$m^3$ | % | raw ct. | spores/$m^3$ | % | raw ct. | spores/$m^3$ | % |
| Alternaria | | | | | | | | | |
| Ascospores | 3 | 39 | 7 | | | | 3 | 39 | 4 |
| Aureobasidium | | | | | | | | | |
| Basidiospores | 13 | 169 | 31 | 14 | 182 | 34 | 22 | 286 | 32 |
| Bipolaris/Drechslera | | | | | | | | | |
| Botrytis | | | | | | | | | |
| Chaetomium | | | | | | | | | |
| Cladosporium | 26 | 338 | 62 | 15 | 195 | 37 | 30 | 390 | 44 |
| Curvularia | | | | | | | | | |
| Epicoccum | | | | | | | | | |
| Cercospora | | | | | | | | | |
| Fusarium | | | | | | | | | |
| Nigrospora | | | | | | | | | |
| Penicillium/Aspergillus | | | | 12 | 156 | 29 | 10 | 130 | 15 |
| Rusts | | | | | | | | | |
| Smuts/Periconia/Myxomy | | | | | | | 2 | 26 | 3 |
| Stachybotrys | | | | | | | | | |
| Stemphylium | | | | | | | | | |
| Memnoniella | | | | | | | | | |
| Ulocladium | | | | | | | | | |
| Colorless/Other Brown 2 | | | | | | | | | |
| Oidium | | | | | | | | | |
| Zygomycetes | | | | | | | 1 | 13 | 1 |
| Pithomyces | | | | | | | | | |
| Background debris (1-5)3 | 3 | | | 3 | | | 3 | | |
| Sample Volume(liters) | 75 | | | 75 | | | 75 | | |
| **TOTAL SPORES/$M^3$** | 42 | **546** | | 41 | **533** | | 68 | **884** | |
| **Quality Control** | | | | | | | | | |

Comments: Condition of the sample(s) upon receipt: Acceptable.

1=Total % may not equal 100 due to rounding.

2 = Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

3 = Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

The reporting limit is 1 Spore/sample.

Disclaimer: This report relates only to the samples tested

Respectfully submitted, SEEML, Inc.

*Sam Kalaf*

Sam Kalaf, Approved Laboratory Signatory

506 Laurens Road #A
Greenville, SC 29607
Phone: (864) 233- 3770
Fax: (864) 233- 3779
AIHA EMLAP # 173667

# Spore Trap Report

| | |
|---|---|
| Attention: Jeff Gurrie | Date Sampled: 11/25/14 |
| Terracon | Date Received: 11/25/14 |
| 3534 Rutherford Road | Date Analyzed: 11/25/14 |
| Taylors, SC 29687 | Date Reported: 11/25/14 |
| | Date Revised: |
| | Project Name: CU- Maintenance/ EHS |
| | Project Address: Clemson, SC. |
| | SEEML Reference # : 141125059 |

**TEST METHOD: DIRECT MICROSCOPY EXAMINATION AT 400X (100% OF TRACE ANALYZED) SEEML SOP 1**

| Client Sample ID | AS-4 | | | AS-5 | | | AS-6 | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | B104A | | | B103 | | | B100 | | |
| Lab Sample ID | 141125059-170 | | | 141125059-171 | | | 141125059-172 | | |
| Detection Limit (spores/$m^3$) | 13 | | | 13 | | | 13 | | |
| Hyphal Fragments | 1 | 13 | | 1 | 13 | | 6 | 78 | |
| Pollen | | | | | | | 1 | 13 | |
| Spore Trap Used | A-O-C | | | A-O-C | | | A-O-C | | |
| | raw ct. | spores/$m^3$ | % | raw ct. | spores/$m^3$ | % | raw ct. | spores/$m^3$ | % |
| Alternaria | | | | | | | | | |
| Ascospores | | | | 6 | 78 | 9 | | | |
| Aureobasidium | | | | | | | | | |
| Basidiospores | 14 | 182 | 25 | 26 | 338 | 41 | 3 | 39 | 23 |
| Bipolaris/Drechslera | | | | | | | | | |
| Botrytis | | | | | | | | | |
| Chaetomium | | | | | | | | | |
| Cladosporium | 37 | 481 | 65 | 29 | 377 | 45 | 10 | 130 | 77 |
| Curvularia | | | | | | | | | |
| Epicoccum | | | | | | | | | |
| Cercospora | | | | | | | | | |
| Fusarium | | | | | | | | | |
| Nigrospora | | | | | | | | | |
| Penicillium/Aspergillus | 6 | 78 | 11 | 3 | 39 | 5 | | | |
| Rusts | | | | | | | | | |
| Smuts/Periconia/Myxomy | | | | | | | | | |
| Stachybotrys | | | | | | | | | |
| Stemphylium | | | | | | | | | |
| Memnoniella | | | | | | | | | |
| Ulocladium | | | | | | | | | |
| Colorless/Other Brown 2 | | | | | | | | | |
| Oidium | | | | | | | | | |
| Zygomycetes | | | | | | | | | |
| Pithomyces | | | | | | | | | |
| Background debris (1-5)3 | 3 | | | 3 | | | 3 | | |
| Sample Volume(liters) | 75 | | | 75 | | | 75 | | |
| **TOTAL SPORES/$M^3$** | 57 | **741** | | 64 | **832** | | 13 | **169** | |
| **Quality Control** | | | | | | | | | |

Comments: Condition of the sample(s) upon receipt: Acceptable.

1=Total % may not equal 100 due to rounding.

2 = Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

3 = Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

The reporting limit is 1 Spore/sample.

Disclaimer: This report relates only to the samples tested

Respectfully submitted, SEEML, Inc.

*Sam Kalaf*

Sam Kalaf, Approved Laboratory Signatory

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Greenville, SC 29607
Phone: (864) 233- 3770
Fax: (864) 233- 3779
AIHA EMLAP # 173667

# Spore Trap Report

| | |
|---|---|
| Attention: Jeff Gurrie | Date Sampled: 11/25/14 |
| Terracon | Date Received: 11/25/14 |
| 3534 Rutherford Road | Date Analyzed: 11/25/14 |
| Taylors, SC 29687 | Date Reported: 11/25/14 |
| | Date Revised: |
| | Project Name: CU- Maintenance/ EHS |
| | Project Address: Clemson, SC. |
| | SEEML Reference # : 141125059 |

**TEST METHOD: DIRECT MICROSCOPY EXAMINATION AT 400X (100% OF TRACE ANALYZED) SEEML SOP 1**

| Client Sample ID | AS-7 | | | AS-8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | Outdoors | | | Blank | | | | | |
| Lab Sample ID | 141125059-173 | | | 141125059-174 | | | | | |
| Detection Limit (spores/$m^3$) | 13 | | | | | | | | |
| Hyphal Fragments | 7 | 91 | | | | | | | |
| Pollen | 1 | 13 | | | | | | | |
| Spore Trap Used | A-O-C | | | A-O-C | | | | | |
| | raw ct. | spores/$m^3$ | % | raw ct. | spores/$m^3$ | % | | | |
| Alternaria | | | | | | | | | |
| Ascospores | 32 | 416 | 18 | | | | | | |
| Aureobasidium | | | | | | | | | |
| Basidiospores | 127 | 1650 | 72 | | | | | | |
| Bipolaris/Drechslera | | | | | | | | | |
| Botrytis | | | | | | | | | |
| Chaetomium | | | | | | | | | |
| Cladosporium | 13 | 169 | 7 | No | | | | | |
| Curvularia | 1 | 13 | <1 | Trace | | | | | |
| Epicoccum | | | | | | | | | |
| Cercospora | | | | | | | | | |
| Fusarium | | | | | | | | | |
| Nigrospora | | | | | | | | | |
| Penicillium/Aspergillus | | | | | | | | | |
| Rusts | | | | | | | | | |
| Smuts/Periconia/Myxomy | 3 | 39 | 2 | | | | | | |
| Stachybotrys | | | | | | | | | |
| Stemphylium | | | | | | | | | |
| Memnoniella | | | | | | | | | |
| Ulocladium | | | | | | | | | |
| Colorless/Other Brown 2 | | | | | | | | | |
| Oidium | | | | | | | | | |
| Zygomycetes | | | | | | | | | |
| Pithomyces | | | | | | | | | |
| Background debris (1-5)3 | 3 | | | | | | | | |
| Sample Volume(liters) | 75 | | | | | | | | |
| **TOTAL SPORES/$M^3$** | 176 | **2290** | | | | | | | |
| **Quality Control** | | | | | | | | | |

Comments: Condition of the sample(s) upon receipt: Acceptable.

1=Total % may not equal 100 due to rounding.

2 = Colorless,other Brown are spores without a distinctive morphology on spore traps and non-viable surface samples.

3 = Background debris is the amount of particulate matter present on the slide and is graded from 1-5 with 1 = very light, 2= Light, 3 = Medium, 4 = Heavy, 5 = Very Heavy. The higher the rating the more likelihood spores may be underestimated. A rating of 5 should be interpreted as minimal counts and may actually be higher than reported.

The reporting limit is 1 Spore/sample.

Disclaimer: This report relates only to the samples tested

Respectfully submitted, SEEML, Inc.

*Sam Kalaf*

Sam Kalaf, Approved Laboratory Signatory

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Phone: (864) 233- 3770
Fax: (864) 233- 3779
AIHA EMLAP # 173667

SEEML Reference Number:
141125059-AP

**Southeast Environmental Microbiology Laboratories, Inc.**
506-A Laurens Rd
Greenville, SC 29607
Phone: (864) 233-3770
FAX: (864) 233-3779

The information and data for **Terracon** has been checked for thoroughness and accuracy. The following reports are contained within this document:

| | | | |
|---|---|---|---|
| ☐ | Direct Exam Report | ☒ | Andersen Fungal Report |
| ☐ | Spore Trap Report | ☐ | Quantitative Direct Exam Report |
| ☐ | RODAC / Contact plate Report | ☐ | Quantitative Fungal Report |

Lab Manager Review *Sam Kalaf* Date: 11/25/14

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The data within this report is reliable to three significant figures. The third significant figure is technically unjustified. In this instance, the third figure is reported as an estimate to facilitate the interpretation by the customer.

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No accepted quantitative regulatory standards currently exist by which to assess the health risks related to mold and bacterial exposure. Molds and bacteria have been associated with a variety of health effects and sensitivity varies from person to person.
Several organizations, including: the American Conference of Government Industrial Hygienists (ACGIH); the American Industrial Hygiene Association (AIHA); the Indoor Air Quality Association (IAQA); the United States Environmental Protection Agency (USEPA); the Centers for Disease Control (CDC), as well as the California Department of Health Services (CADHS), have all published guidelines for assessment and interpretation of mold resulting from water intrusion in buildings.

Interpretation of the data and information within this document is left to the company, consultant, and/or persons who conducted the fieldwork.

# Viable Air (Andersen) Fungal Report

| | |
|---|---|
| Attention: Jeff Gurrie | Date Sampled: 11/25/14 |
| Terracon | Date Received: 11/25/14 |
| 3534 Rutherford Road | Date Analyzed: 10/04/14 |
| Taylors, SC 29687 | Date Reported:10/04/14 |
| | Project Name: CU - Maintenance/ EHS |
| | Project Number: |
| | SEEML Reference # : 141125059 |

**Test Method:** Stereomicroscopy-Seeml SOP 2

PHCC* 400

| Client Sample ID | VS-1 | | | VS-2 | | | VS-3 | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | B104D1 | | | B104D | | | B104 | | |
| Lab Sample ID | 141125059-175 | | | 141125059-176 | | | 141125059-177 | | |
| Detection Limit (cfu/$m^3$) | 7 | | | 7 | | | 7 | | |
| Media Used | MEA | | | MEA | | | MEA | | |
| | raw ct. | cfu**/$m^3$ | % | raw ct. | cfu**/$m^3$ | % | raw ct. | cfu**/$m^3$ | % |
| Acremonium | | | | | | | | | |
| Alternaria | | | | | | | | | |
| Aspergillus flavus | | | | | | | | | |
| Aspergillus fumigatus | | | | | | | | | |
| Aspergillus nidulans | | | | | | | | | |
| Aspergillus niger | | | | | | | 1 | 7 | 6 |
| Aspergillus glaucus | | | | | | | | | |
| Aspergillus sydowii | | | | | | | | | |
| Aspergillus terreus | | | | | | | | | |
| Aspergillus versicolor | 3 | 21 | 20 | | | | | | |
| Aspergillus other | | | | | | | | | |
| Aureobasidium | | | | | | | | | |
| Botrytis | | | | | | | | | |
| Bipolaris/Dreshclera | | | | | | | | | |
| Cladosporium | 6 | 42 | 40 | 5 | 35 | 50 | 12 | 84 | 71 |
| Chaetomium | | | | | | | | | |
| Curvularia | | | | | | | | | |
| Epicoccum | | | | | | | | | |
| Mucor | | | | | | | | | |
| Non-sporulating Fungi | | | | | | | | | |
| Paecilomyces | | | | | | | | | |
| Penicillium | 5 | 35 | 33 | 4 | 28 | 40 | 3 | 21 | 18 |
| Phoma/Coelmycetes | | | | | | | | | |
| Rhizopus | 1 | 7 | 7 | 1 | 7 | 10 | 1 | 7 | 6 |
| Stachybotrys chartarum | | | | | | | | | |
| Yeast | | | | | | | | | |
| Volume (liters) | 141.5 | | | 141.5 | | | 141.5 | | |
| **TOTAL cfu/$m^3$** | 15 | **105** | | 10 | **70** | | 17 | **119** | |
| **Quality Control** | | | | | | | | | |

Comments: Condition of the sample(s) upon receipt: Acceptable.

PHCC * Particle Hole Coeffecient Correction

**colony forming units (The reporting limit is 1cfu/sample)

Disclaimer: This report relates only to the samples tested.

Respectfully submitted, SEEML, Inc.

*Sam Kalaf*

Sam Kalaf, Approved Laboratory Signatory

506 Laurens Road #A
Greenville, SC 29607
Phone: (864) 233- 3770
Fax: (864) 233- 3779
AIHA EMLAP # 173667

# Viable Air (Andersen) Fungal Report

| | |
|---|---|
| Attention: Jeff Gurrie | Date Sampled: 11/25/14 |
| Terracon | Date Received: 11/25/14 |
| 3534 Rutherford Road | Date Analyzed: 10/04/14 |
| Taylors, SC 29687 | Date Reported:10/04/14 |
| | Project Name: CU - Maintenance/ EHS |
| | Project Number: |
| | SEEML Reference # : 141125059 |

**Test Method:** Stereomicroscopy-Seeml SOP 2

PHCC* 400

| Client Sample ID | VS-4 | | | VS-5 | | | VS-6 | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | B104A | | | B103 | | | B100 | | |
| Lab Sample ID | 141125059-178 | | | 141125059-179 | | | 141125059-180 | | |
| Detection Limit (cfu/$m^3$) | 7 | | | 7 | | | 7 | | |
| Media Used | MEA | | | MEA | | | MEA | | |
| | raw ct. | cfu**/$m^3$ | % | raw ct. | cfu**/$m^3$ | % | raw ct. | cfu**/$m^3$ | % |
| Acremonium | | | | | | | | | |
| Alternaria | | | | | | | | | |
| Aspergillus flavus | | | | | | | | | |
| Aspergillus fumigatus | | | | | | | | | |
| Aspergillus nidulans | | | | | | | | | |
| Aspergillus niger | | | | | | | | | |
| Aspergillus glaucus | | | | | | | | | |
| Aspergillus sydowii | | | | | | | | | |
| Aspergillus terreus | | | | | | | | | |
| Aspergillus versicolor | | | | 1 | 7 | 13 | | | |
| Aspergillus other | | | | | | | | | |
| Aureobasidium | | | | | | | | | |
| Botrytis | | | | | | | | | |
| Bipolaris/Dreshclera | | | | | | | | | |
| Cladosporium | 14 | 98 | 70 | 6 | 42 | 75 | 34 | 238 | 92 |
| Chaetomium | | | | | | | | | |
| Curvularia | | | | | | | | | |
| Epicoccum | | | | | | | | | |
| Mucor | | | | | | | | | |
| Non-sporulating Fungi | 2 | 14 | 10 | | | | 2 | 14 | 5 |
| Paecilomyces | | | | | | | | | |
| Penicillium | 4 | 28 | 20 | | | | 1 | 7 | 3 |
| Phoma/Coelmycetes | | | | | | | | | |
| Rhizopus | | | | | | | | | |
| Stachybotrys chartarum | | | | | | | | | |
| Yeast | | | | 1 | 7 | 13 | | | |
| Volume (liters) | 141.5 | | | 141.5 | | | 141.5 | | |
| **TOTAL cfu/$m^3$** | 20 | **140** | | 8 | **56** | | 37 | **259** | |
| **Quality Control** | | | | | | | | | |

Comments: Condition of the sample(s) upon receipt: Acceptable.

PHCC * Particle Hole Coeffecient Correction

**colony forming units (The reporting limit is 1cfu/sample)

Disclaimer: This report relates only to the samples tested.

Respectfully submitted, SEEML, Inc.

*Sam Kalaf*

Sam Kalaf, Approved Laboratory Signatory

506 Laurens Road #A
Greenville, SC 29607
Phone: (864) 233- 3770
Fax: (864) 233- 3779
AIHA EMLAP # 173667

# Viable Air (Andersen) Fungal Report

| | |
|---|---|
| Attention: Jeff Gurrie | Date Sampled: 11/25/14 |
| Terracon | Date Received: 11/25/14 |
| 3534 Rutherford Road | Date Analyzed: 10/04/14 |
| Taylors, SC 29687 | Date Reported:10/04/14 |
| | Project Name: CU - Maintenance/ EHS |
| | Project Number: |
| | SEEML Reference # : 141125059 |

**Test Method:** Stereomicroscopy-Seeml SOP 2

PHCC* 400

| Client Sample ID | VS-7 | | | VS-8 | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Location | Outdoors | | | Blank | | | | | |
| Lab Sample ID | 141125059-181 | | | 141125059-182 | | | | | |
| Detection Limit (cfu/$m^3$) | 7 | | | | | | | | |
| Media Used | MEA | | | MEA | | | | | |
| | raw ct. | cfu**/$m^3$ | % | raw ct. | cfu**/$m^3$ | % | | | |
| Acremonium | | | | | | | | | |
| Alternaria | | | | | | | | | |
| Aspergillus flavus | | | | | | | | | |
| Aspergillus fumigatus | | | | | | | | | |
| Aspergillus nidulans | | | | | | | | | |
| Aspergillus niger | | | | | | | | | |
| Aspergillus glaucus | | | | | | | | | |
| Aspergillus sydowii | | | | | | | | | |
| Aspergillus terreus | | | | | | | | | |
| Aspergillus versicolor | | | | | | | | | |
| Aspergillus other | | | | | | | | | |
| Aureobasidium | | | | | | | | | |
| Botrytis | | | | | | | | | |
| Bipolaris/Dreshclera | | | | | | | | | |
| Cladosporium | 76 | 532 | 99 | None | | | | | |
| Chaetomium | | | | Detected | | | | | |
| Curvularia | | | | | | | | | |
| Epicoccum | | | | | | | | | |
| Mucor | | | | | | | | | |
| Non-sporulating Fungi | 1 | 7 | 1 | | | | | | |
| Paecilomyces | | | | | | | | | |
| Penicillium | | | | | | | | | |
| Phoma/Coelmycetes | | | | | | | | | |
| Rhizopus | | | | | | | | | |
| Stachybotrys chartarum | | | | | | | | | |
| Yeast | | | | | | | | | |
| Volume (liters) | 141.5 | | | | | | | | |
| **TOTAL cfu/$m^3$** | 77 | **539** | | | | | | | |
| **Quality Control** | | | | | | | | | |

Comments: Condition of the sample(s) upon receipt: Acceptable.

PHCC * Particle Hole Coeffecient Correction

**colony forming units (The reporting limit is 1cfu/sample)

Disclaimer: This report relates only to the samples tested.

Respectfully submitted, SEEML, Inc.

*Sam Kalaf*

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