



AWS 1963
August 7, 2017

Dan Mazzanti
County of Mendocino
851 Low Gap Rd.
Ukiah, CA

**RE: Microbial Inspection Report
Mendocino County of Public Health Building
1120 S Dora Street, Ukiah, CA**

Dear Mr. Mazzanti:

Pursuant to your direction, **Air & Water SCIENCES** (AWS) has prepared this report regarding our initial evaluation of the residence at the above-referenced address for microbial concerns on July 24, 2017. This report includes the procedures and methodologies followed, as well as, analytical laboratory results, and applicable conclusions and recommendations for the Mendocino County of Public Health building.

Scope of Work

The scope of work for the inspection is as follows:

- Conduct a visual inspection of the remediated areas of the structure, looking for any visible mold growth.
- Conduct spore-trap air sampling to determine the total spore count in the ambient air of the structure.
- Collect tape-lift sampling of areas with visible mold growth.
- Collect samples from water damaged carpeting as needed.
- Provide a written report summarizing the results of the inspection.

Visual Inspection

A visual inspection was conducted of the South wing offices of the Mendocino County of Public Health building located at 1120 S Dora Street in Ukiah on July 24, 2017. The weather was sunny with an outside temperature of 78° F and a relative humidity (RH) of 33.3%. Temperature and relative humidity measurements were made using an Extech RH 300 digital Psychrometer. Moisture measurements of building materials were made using a Protimeter Aquant non-penetrating moisture detector and/or a Delmhorst Model BD2100 conductivity moisture apartment complex.

The building is a former hospital that is currently used by Mendocino County for Public Health services. It is a one story building with stucco exterior walls (with gravel and concrete wall panels) and a concrete pad flooring. It is a membrane roof with several rooftop HVAC systems. One HVAC unit provides all conditioned heating and air conditioning for the South wing of the building that is the subject of this report. The South wing was a later add-on and was not part of the original structure which was likely constructed in the early 1970's. The offices have carpeting over the concrete floor with vinyl flooring tile below as well as drywall walls and a drop t-bar ceiling.

AWS was requested to inspect and test the offices in the South wing for water damage and potential microbial growth due to concerns of several employees. AWS inspected the carpeting and walls within each office and collected an air sample from the following areas: Offices 359, 364, 366, 368, 369, 370, 371, 372, 375, the North end of the hallway and the South end of the hallway. Additionally, two outdoor air samples were collected for comparison/control purposes.

All offices were dry at the time of the inspection and the temperature and humidity levels were within a normal range. The following areas of concern were identified during the inspection.

Area of Concern #1 – Office 369

- Water damage and suspected microbial growth were observed to the drywall below the base coving on the South wall of the room.
- Water stained carpeting was observed along the South wall.
- The source of water appears to be related to the fact that the soils are built-up around the foundation and there is no soffit overhang for the wall.

Area of Concern #2 – Office 370

- Water damaged carpeting was observed at an interior facing wall adjacent to room 371.
- The individual who occupies the office stated that there had been a roofing leak into the wall and carpeting in February of 2017 during heavy rains.
- Microbial growth was observed on the drywall in the north-eastern section of the room below the base coving.

Area of Concern #3 – Office 371

- AWS attempted to inspect the drywall adjacent to the damages in Office 370, however a desk with a low back panel is in place that prevented inspection.
- AWS collected a vacuum sample from the carpeting that appeared to have sustained water damage.

Area of Concern #4 – Office 375

- Water staining was observed on the carpeting.

Sampling

Spore-Trap Ambient Air Sampling

An A.P. Buck BioAire pump and Allergenco D Air-O-Cell cassettes were used to collect spore-trap samples from the indoor and outdoor ambient air. Spore-trap samples determine total mold spore counts (both viable and non-viable) in the air. The air sampling technique is performed by drawing the air through the cassette. The air impacts an adhesive surface within the sealed cassette housing, and airborne particulate is trapped onto the surface by adhesion. The samples are examined microscopically to quantify and identify the mold spores present in the air.

The intake airflow to the sampler is calibrated at 15 liters per minute. All ambient air cassette samples, both indoor and outdoor, were collected at 15 liters per minute for five minutes for a total of 75 liters of air. After sample collection, the cassettes were transported under chain-of-custody to the laboratory for analysis. The analytical results are expressed as total spore counts per cubic meter of air.

Surface Tape-Lift Sampling

Surface samples were obtained by use of the cellophane tape-lift technique. This technique requires that a piece of crystal-clear cellophane tape, approximately $\frac{3}{4}$ inch wide by $1\frac{3}{4}$ inches long, be pressed to the surface area that is to be sampled. The surface particulate that attaches to the adhesive surface of the tape is then lifted from the surface. The tape is immediately placed on a clean, new microscope slide for transport to the laboratory, under chain-of-custody. In the laboratory, the tape is lifted from the slide and mounted, adhesive side up, on the slide. One or two drops of stain are placed on the adhesive surface and a cover slip is applied atop the stain. The slide is then examined microscopically for the presence of fungal growth or settled spores. Spore counts are presented as qualitative results with <1+ indicating very light growth; 1+ indicating light growth; 2+ indicating moderate growth; 3+ indicating heavy growth and 4+ indicating very heavy growth.

Carpet Sampling – for Viable Microbial Spores in Dust

The area to be sampled is marked and a 37-mm polycarbonate filter cassette is attached to a high volume sampling pump (20 liters per minute). New tygon tubing is attached to the cassette and used to vacuum the surface of the area to be sampled. Once the entire area has been sampled in both a back and forth, up and down procedure, the cassette is sealed, labeled and shipped under chain of custody to the analytical laboratory. An aliquot of dust is weighed and mixed with DI water, and applied in specific ratios to 3 media plates and incubated for approximately 7 days at a temperature of 25^oC.

The samples are evaluated for the number of colony forming units per gram of dust and major and dominant taxa that may indicate microbial contamination. Samples that exceed 10⁵ CFUs per gram of dust are considered to be atypical and are evaluated for dominant or major taxa. The OSHA Technical Manual (OTM) - Section III: Chapter 2: Indoor Air Quality Investigation, considers 10⁶ microbial spores per gram of dust as an indicator of microbial contamination.

Analytical Results

Spore-Trap Ambient Air Sample Analysis

AWS collected eleven (11) indoor ambient air spore-trap samples from the South wing of the building. One (1) sample was taken from each of the following areas: Offices 359, 364, 366, 368, 369, 370, 371, 372, 375, the North end of the hallway and the South end of the hallway. Additionally, two outdoor air samples were collected for comparison/control purposes.

The analytical results of each of the air samples demonstrated normal microbial spore counts in all of the areas tested.

Tape-Lift Results

A total of two (2) surface tape-lift samples were collected from within the building including:

- TS-1, Office 369 – South wall, very heavy growth (4+) *Chaetomium* sp.
- TS-2, Office 370 – North wall, very heavy growth (4+) *Chaetomium* sp., light growth of *Aspergillus* sp., and light growth (1+) *Stachybotrys* sp.

Carpet Dust Samples

AWS collected carpet dust samples in Rooms 371 and 375. Extensive water staining was observed to the carpeting in both rooms. The samples are evaluated for the number of colony forming units per gram of dust and major and dominant taxa that may indicate microbial contamination. Samples that exceed 10^5 CFUs per gram of dust are considered to be atypical and are evaluated for dominant or major taxa. The OSHA Technical Manual (OTM) - Section III: Chapter 2: Indoor Air Quality Investigation, considers 10^6 microbial spores per gram of dust as an indicator of microbial contamination.

The sample results from Office 371 identified a total of 380,000 CFUs/gram of dust with *Penicillium* being a dominant taxa and thus indicating microbial growth due to a primary colonizing mold. The sample collected from Office 375 contained 29,000 CFUs per gram of dust, with *Cladosporium* being the dominant taxa. This result is considered to be normal.

Conclusions and Recommendations

Water damage and microbial growth were identified in 2 offices within the South wing of the building. Both areas appear to be related to seasonal rainfall and will likely continue to leak during the rainy season unless building repairs are made. Both areas were dry at the time of the inspection and were within normal humidity levels.

Water damage and microbial growth in Office 369 was identified at the baseboard level along the South wall. It is likely that the water damages are associated with the raised soil level against the wall and the lack of an overhang. Water appears to be entering at the connection of the slab and wall.

The occupant of Office 370 described a roof leak that occurred during heavy rains in February 2017. Microbial growth was observed on the drywall of Office 370, away from any windows. The wall adjoins office 371 and water staining was observed to the carpet in this room, however, the desk prevented evaluation of the wall in the suspected location of water intrusion.

Air sampling was conducted in all offices on the South wing and in the hallway. Analytical results did not identify any areas of elevated airborne microbial spores.

Remediation is recommended for each of the Areas of Concern identified in this report.

Remediation

Based upon the results of the visual and analytical inspections conducted by AWS remediation is needed due to the presence of microbial growth within the several offices. The rooms should be placed under negative air pressure and an air scrubber should be placed in the hallway during remediation to help eliminate airborne mold spores and dust that are generated during the cleaning process.

Applicable Guidelines for Fungal Remediation

- IICRC, ANSI/IICRC S520-2008, "Standard and Reference Guide for Professional Mold Remediation."

Qualified mold remediation professionals should perform all mold remediation activities.

All sources of water intrusion into the building should be repaired prior to or in conjunction with the remediation steps outlined below.

Area of Concern #1 – Office 369

- Remove and discard carpeting.
- Remove the drywall from the floor level to a height of 4' as indicated in Figure 2.
- Remove and discard all exposed insulation materials.
- Verify that the source of moisture into the building along the South wall has been resolved.

Area of Concern #2 – Office 370

- Remove and discard carpeting.
- Remove the drywall from the floor level to the ceiling as indicated in Figure 2.
- Remove and discard all exposed insulation materials.
- Verify that the source of moisture into the building from the roof has been resolved.

Area of Concern #3 – Office 371

- Remove and discard carpeting.
- Inspect the backside of the drywall from within Office 370 and remove wall materials in Office 371 as necessary.

Cleaning

- Once the critical barriers have been placed over all air supply and air return vents, and air filtration devices are in place, remediation can commence.
- Remove all areas of water damaged drywall as identified above.
- All water damaged surfaces and areas of microbial growth on the framing should be cleaned with wire brushes or by sanding.
- Once all growth has been verified to have been exposed and/or removed, use a HEPA vacuum and wipe down all areas with a mild detergent solution to remove any remaining mold spores.
- Wipe down all horizontal surfaces with a mild soap solution.
- HEPA vacuum all horizontal surfaces within the affected areas.

Post-Remediation Verification

Visual Inspection

All exposed surfaces in the remediation area should be visually inspected. If all areas pass the visual inspection and are verified to be dry (<15% MC) and dust free, final samples can be collected.

Final Sampling

Air – Final air samples should be collected using air spore traps and analyzed for total non-viable (total) microbial spores. Final samples should contain 80% or less of the total microbial spore concentrations identified in the outdoor air samples, and be of similar fungal ecology (types of spores present).

Once final samples demonstrate the residence to be free of elevated levels of microbial spores it is recommended that exposed materials be sealed with an antimicrobial encapsulant paint such as Fosters 40-20.

Limitations

The conclusions and results contained herein are based solely on the information presented in this report. Additional information or contamination that was hidden, undiscovered, inaccessible, or are not a part of the findings presented herein, would result in the modification of the conclusions and recommendations of this report. Any remediation guidelines are minimum general guidelines based solely on the findings contained herein. The guidelines are presented as a courtesy and are not to be considered a complete or detailed set of remediation specifications.

AWS is not responsible for the accuracy of information provided by others, or for conditions or consequences arising from relevant facts that were withheld, concealed, undiscovered or not fully disclosed. AWS is not qualified to present medical advice. AWS did not test for lead and asbestos containing materials. Building materials that may be disturbed during the course of planned renovations should be assessed for asbestos and lead based paint hazards per applicable regulations. If any present or future health issues are in question, it is recommended that the findings in this report be presented to a qualified medical professional for evaluation. AWS is not a law firm and, therefore, makes no representations regarding any potential liability of any person or entity for site conditions.

AWS appreciates the opportunity to perform these services for you and we look forward to working with you in the future. Please know that if you have questions or comments regarding the information in this report at any time or if we can be of further assistance, we can be reached at (707) 769-2289.

Respectfully submitted,

Air & Water SCIENCES



Chip Prokop, PE, CIEC, CAC 08-4420
Principal



AS = AIR SAMPLE LOCATION
 ● = CARPET SAMPLE LOCATION
 ⊗ = TAPE-LIFT SAMPLE LOCATION



Public Health Building
 County of Mendocino
 1120 S. Dora Street
 Ukiah, CA

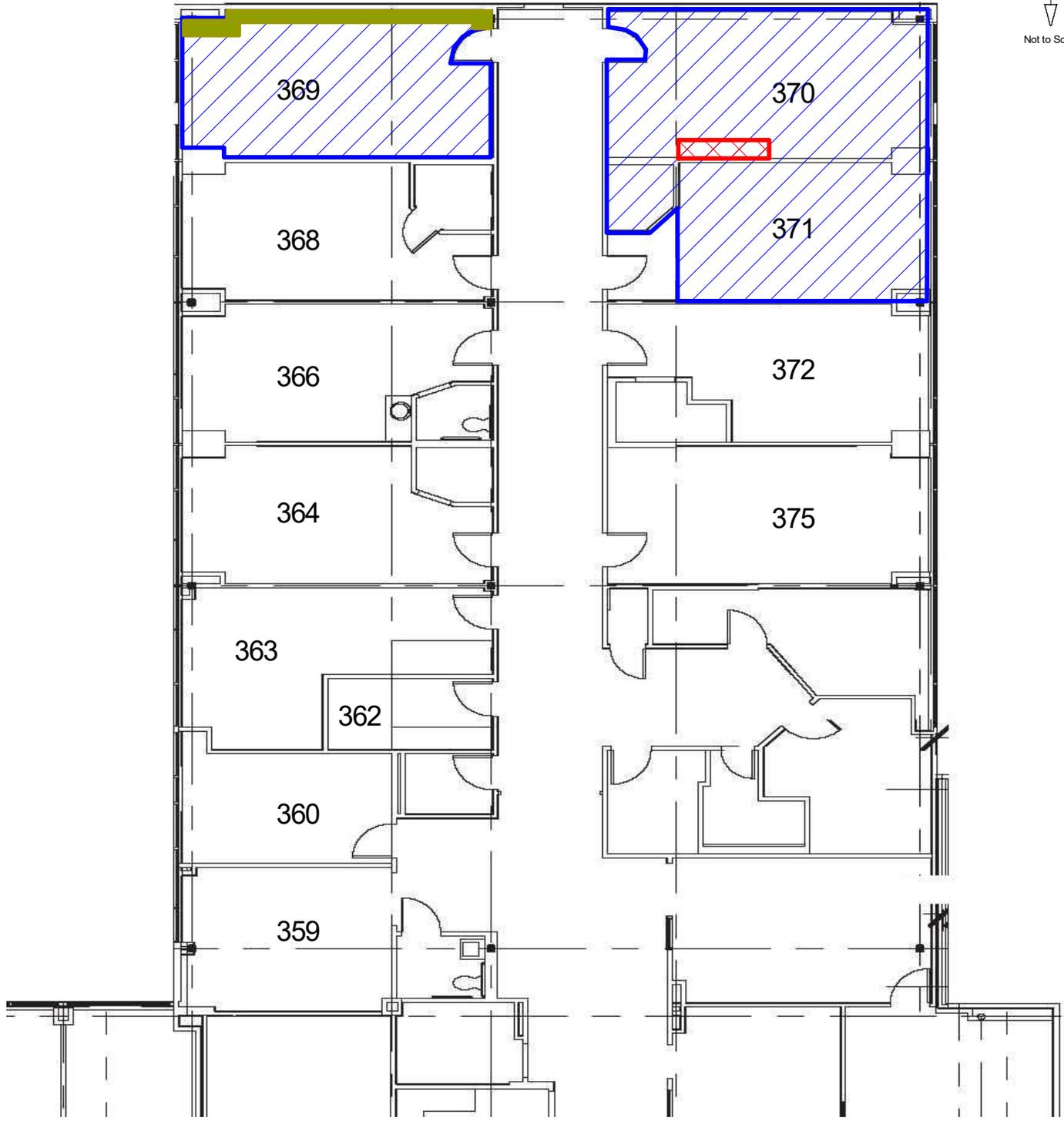
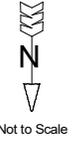
BASEMAP PROVIDED BY COUNTY OF MENDOCINO

FIGURE 1

SAMPLE LOCATIONS

PROJECT NO. 1963

DATE: JULY 24, 2017



-  = REMOVE CARPET
-  = REMOVE WALL FROM FLOOR TO CEILING
-  = REMOVE WALL MATERIALS TO 4 FT

Public Health Building
County of Mendocino
1120 S. Dora Street
Ukiah, CA

BASEMAP PROVIDED BY COUNTY OF MENDOCINO

FIGURE 2
REMEDIATION RECOMMENDATIONS
PROJECT NO. 1963
DATE: JULY 24, 2017





7/24/2017



Office 370

7/24/2017



7/24/2017



Office 370, Microbial growth is present below base coving

7/24/2017



Office 369

7/24/2017



Office 369, South wall

7/24/2017



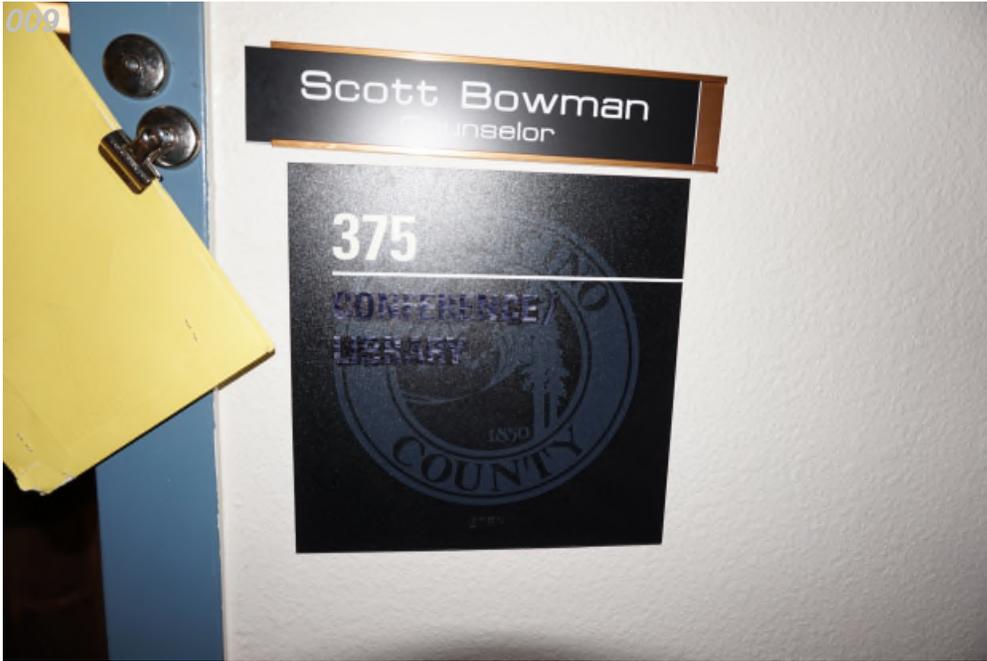
Office 369, Microbial growth behind base coving on South wall

7/24/2017



South wall outside of Office 369

7/24/2017



Office 375

7/24/2017



Office 375, carpet appears to be water stained, but mold growth is not present 7/24/20



Report for:

Ms. Lesley Hunter, Mr. Chip Prokop
Air & Water Sciences
625 2nd Street, Suite 210
Petaluma, CA 94952

Regarding: Project: AWS 1963; M Co. Public Health
EML ID: 1764755

Approved by:

Dates of Analysis:
Spore trap analysis: 07-25-2017

Technical Manager
Murali Putty

Service SOPs: Spore trap analysis (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #102856

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Air & Water Sciences
C/O: Ms. Lesley Hunter, Mr. Chip Prokop
Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
Date of Receipt: 07-25-2017
Date of Report: 07-25-2017

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

| | | | | | | |
|--------------------------------|------------------------|--------|--------------|------------------------|--------|------------|
| Location: | 2101832: Outside NE | | | 2101843: Office 359 | | |
| Comments (see below) | None | | | None | | |
| Lab ID-Version‡: | 8245364-1 | | | 8245365-1 | | |
| Analysis Date: | 07/25/2017 | | | 07/25/2017 | | |
| | raw ct. | % read | spores/m3 | raw ct. | % read | spores/m3 |
| Ascospores | 4 | 25 | 210 | 3 | 25 | 160 |
| Basidiospores | 10 | 25 | 530 | 3 | 25 | 160 |
| Chaetomium | | | | | | |
| Cladosporium | 12 | 25 | 640 | 2 | 25 | 110 |
| Epicoccum | | | | | | |
| Fusarium | | | | | | |
| Myrothecium | | | | | | |
| Nigrospora | | | | | | |
| Other brown | 1 | 100 | 13 | 1 | 100 | 13 |
| Other colorless | | | | | | |
| Penicillium/Aspergillus types† | 5 | 25 | 270 | 1 | 25 | 53 |
| Pithomyces | | | | | | |
| Rusts | | | | | | |
| Smuts, Periconia, Myxomycetes | | | | 2 | 100 | 27 |
| Stachybotrys | | | | | | |
| Stemphylium | | | | | | |
| Torula | | | | | | |
| Ulocladium | | | | | | |
| Zygomycetes | | | | | | |
| Background debris (1-4+)†† | 3+ | | | 3+ | | |
| Hyphal fragments/m3 | < 13 | | | < 13 | | |
| Pollen/m3 | < 13 | | | 13 | | |
| Skin cells (1-4+) | < 1+ | | | 1+ | | |
| Sample volume (liters) | 75 | | | 75 | | |
| § TOTAL SPORES/m3 | | | 1,700 | | | 520 |

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m³ has been rounded to two significant figures to reflect analytical precision.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

| | | | | | | |
|--------------------------------|------------------------|--------|------------|------------------------|--------|------------|
| Location: | 1869161: Office 368 | | | 2101858: Office 370 | | |
| Comments (see below) | None | | | None | | |
| Lab ID-Version‡: | 8245366-1 | | | 8245367-1 | | |
| Analysis Date: | 07/25/2017 | | | 07/25/2017 | | |
| | raw ct. | % read | spores/m3 | raw ct. | % read | spores/m3 |
| Ascospores | 1 | 25 | 53 | 2 | 25 | 110 |
| Basidiospores | 4 | 25 | 210 | 6 | 25 | 320 |
| Chaetomium | | | | | | |
| Cladosporium | 1 | 25 | 53 | 2 | 25 | 110 |
| Epicoccum | 1 | 100 | 13 | 1 | 100 | 13 |
| Fusarium | | | | | | |
| Myrothecium | | | | | | |
| Nigrospora | | | | | | |
| Other brown | 1 | 100 | 13 | 2 | 100 | 27 |
| Other colorless | | | | | | |
| Penicillium/Aspergillus types† | 4 | 25 | 210 | 4 | 25 | 210 |
| Pithomyces | | | | | | |
| Rusts | 1 | 100 | 13 | | | |
| Smuts, Periconia, Myxomycetes | 8 | 100 | 110 | 1 | 100 | 13 |
| Stachybotrys | | | | | | |
| Stemphylium | | | | | | |
| Torula | | | | | | |
| Ulocladium | | | | | | |
| Zygomycetes | | | | | | |
| Background debris (1-4+)†† | 3+ | | | 3+ | | |
| Hyphal fragments/m3 | < 13 | | | 40 | | |
| Pollen/m3 | < 13 | | | 27 | | |
| Skin cells (1-4+) | 1+ | | | 1+ | | |
| Sample volume (liters) | 75 | | | 75 | | |
| § TOTAL SPORES/m3 | | | 680 | | | 800 |

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m³ has been rounded to two significant figures to reflect analytical precision.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

| | | | | | | |
|--------------------------------|------------------------|--------|------------|------------------------|--------|------------|
| Location: | 2101868: Office 369 | | | 2101838: Hall North | | |
| Comments (see below) | None | | | None | | |
| Lab ID-Version‡: | 8245368-1 | | | 8245369-1 | | |
| Analysis Date: | 07/25/2017 | | | 07/25/2017 | | |
| | raw ct. | % read | spores/m3 | raw ct. | % read | spores/m3 |
| Ascospores | | | | 1 | 25 | 53 |
| Basidiospores | 3 | 25 | 160 | 2 | 25 | 110 |
| Chaetomium | | | | | | |
| Cladosporium | 1 | 25 | 53 | | | |
| Epicoccum | | | | | | |
| Fusarium | | | | | | |
| Myrothecium | | | | | | |
| Nigrospora | | | | | | |
| Other brown | | | | | | |
| Other colorless | | | | | | |
| Penicillium/Aspergillus types† | 2 | 25 | 110 | 2 | 25 | 110 |
| Pithomyces | | | | | | |
| Rusts | | | | | | |
| Smuts, Periconia, Myxomycetes | | | | | | |
| Stachybotrys | | | | | | |
| Stemphylium | | | | | | |
| Torula | | | | | | |
| Ulocladium | | | | | | |
| Zygomycetes | | | | | | |
| Background debris (1-4+)†† | 3+ | | | 3+ | | |
| Hyphal fragments/m3 | 27 | | | < 13 | | |
| Pollen/m3 | 13 | | | < 13 | | |
| Skin cells (1-4+) | 1+ | | | 1+ | | |
| Sample volume (liters) | 75 | | | 75 | | |
| § TOTAL SPORES/m3 | | | 320 | | | 270 |

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

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For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m³ has been rounded to two significant figures to reflect analytical precision.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

| | | | | | | |
|--------------------------------|------------------------|--------|------------|------------------------|--------|------------|
| Location: | 2101842: Hall South | | | 2101837: Office 371 | | |
| Comments (see below) | None | | | None | | |
| Lab ID-Version‡: | 8245370-1 | | | 8245371-1 | | |
| Analysis Date: | 07/25/2017 | | | 07/25/2017 | | |
| | raw ct. | % read | spores/m3 | raw ct. | % read | spores/m3 |
| Ascospores | | | | | | |
| Basidiospores | | | | 1 | 25 | 53 |
| Chaetomium | | | | 1 | 100 | 13 |
| Cladosporium | 3 | 25 | 160 | 1 | 25 | 53 |
| Epicoccum | | | | | | |
| Fusarium | | | | | | |
| Myrothecium | | | | | | |
| Nigrospora | | | | | | |
| Other brown | | | | | | |
| Other colorless | | | | | | |
| Penicillium/Aspergillus types† | | | | | | |
| Pithomyces | | | | | | |
| Rusts | 1 | 100 | 13 | | | |
| Smuts, Periconia, Myxomycetes | 2 | 100 | 27 | 22 | 100 | 290 |
| Stachybotrys | | | | | | |
| Stemphylium | | | | | | |
| Torula | | | | | | |
| Ulocladium | | | | | | |
| Zygomycetes | | | | | | |
| Background debris (1-4+)†† | 3+ | | | 4+ | | |
| Hyphal fragments/m3 | 93 | | | 67 | | |
| Pollen/m3 | < 13 | | | < 13 | | |
| Skin cells (1-4+) | 1+ | | | 1+ | | |
| Sample volume (liters) | 75 | | | 75 | | |
| § TOTAL SPORES/m3 | | | 200 | | | 410 |

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m³ has been rounded to two significant figures to reflect analytical precision.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

| | | | | | | |
|--------------------------------|------------------------|--------|------------|------------------------|--------|------------|
| Location: | 2101863: Office 372 | | | 1869160: Office 375 | | |
| Comments (see below) | None | | | None | | |
| Lab ID-Version‡: | 8245372-1 | | | 8245373-1 | | |
| Analysis Date: | 07/25/2017 | | | 07/25/2017 | | |
| | raw ct. | % read | spores/m3 | raw ct. | % read | spores/m3 |
| Ascospores | | | | 3 | 25 | 160 |
| Basidiospores | 1 | 25 | 53 | | | |
| Chaetomium | 1 | 100 | 13 | | | |
| Cladosporium | 3 | 25 | 160 | 2 | 25 | 110 |
| Epicoccum | | | | | | |
| Fusarium | | | | | | |
| Myrothecium | | | | | | |
| Nigrospora | | | | | | |
| Other brown | | | | | | |
| Other colorless | | | | | | |
| Penicillium/Aspergillus types† | | | | | | |
| Pithomyces | | | | | | |
| Rusts | | | | | | |
| Smuts, Periconia, Myxomycetes | 32 | 100 | 430 | 15 | 100 | 200 |
| Stachybotrys | | | | | | |
| Stemphylium | | | | | | |
| Torula | | | | | | |
| Ulocladium | | | | | | |
| Zygomycetes | | | | | | |
| Background debris (1-4+)†† | 3+ | | | 4+ | | |
| Hyphal fragments/m3 | 80 | | | 40 | | |
| Pollen/m3 | < 13 | | | < 13 | | |
| Skin cells (1-4+) | 1+ | | | 2+ | | |
| Sample volume (liters) | 75 | | | 75 | | |
| § TOTAL SPORES/m3 | | | 650 | | | 470 |

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m³ has been rounded to two significant figures to reflect analytical precision.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

| | | | | | | |
|--------------------------------|------------------------|--------|--------------|------------------------|--------|------------|
| Location: | 1869146: Office 364 | | | 1869156: Office 366 | | |
| Comments (see below) | None | | | None | | |
| Lab ID-Version‡: | 8245374-1 | | | 8245375-1 | | |
| Analysis Date: | 07/25/2017 | | | 07/25/2017 | | |
| | raw ct. | % read | spores/m3 | raw ct. | % read | spores/m3 |
| Ascospores | | | | | | |
| Basidiospores | | | | 1 | 25 | 53 |
| Chaetomium | 1 | 100 | 13 | | | |
| Cladosporium | 2 | 25 | 110 | | | |
| Epicoccum | | | | | | |
| Fusarium | | | | | | |
| Myrothecium | | | | | | |
| Nigrospora | | | | | | |
| Other brown | 1 | 100 | 13 | | | |
| Other colorless | | | | | | |
| Penicillium/Aspergillus types† | | | | | | |
| Pithomyces | | | | | | |
| Rusts | | | | | | |
| Smuts, Periconia, Myxomycetes | 71 | 100 | 950 | 14 | 100 | 190 |
| Stachybotrys | | | | | | |
| Stemphylium | | | | | | |
| Torula | | | | | | |
| Ulocladium | | | | | | |
| Zygomycetes | | | | | | |
| Background debris (1-4+)†† | 3+ | | | 3+ | | |
| Hyphal fragments/m3 | 110 | | | 40 | | |
| Pollen/m3 | 40 | | | < 13 | | |
| Skin cells (1-4+) | 1+ | | | 1+ | | |
| Sample volume (liters) | 75 | | | 75 | | |
| § TOTAL SPORES/m3 | | | 1,100 | | | 240 |

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m³ has been rounded to two significant figures to reflect analytical precision.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

| | | | |
|--------------------------------|---------------------------|--------|--------------|
| Location: | 2101836: Outside South | | |
| Comments (see below) | None | | |
| Lab ID-Version‡: | 8245376-1 | | |
| Analysis Date: | 07/25/2017 | | |
| | raw ct. | % read | spores/m3 |
| Ascospores | 1 | 25 | 53 |
| Basidiospores | 10 | 25 | 530 |
| Chaetomium | | | |
| Cladosporium | 14 | 25 | 750 |
| Epicoccum | | | |
| Fusarium | | | |
| Myrothecium | | | |
| Nigrospora | | | |
| Other brown | | | |
| Other colorless | | | |
| Penicillium/Aspergillus types† | | | |
| Pithomyces | | | |
| Rusts | | | |
| Smuts, Periconia, Myxomycetes | 2 | 100 | 27 |
| Stachybotrys | | | |
| Stemphylium | | | |
| Torula | 2 | 100 | 27 |
| Ulocladium | | | |
| Zygomycetes | | | |
| Background debris (1-4+)†† | 3+ | | |
| Hyphal fragments/m3 | 27 | | |
| Pollen/m3 | < 13 | | |
| Skin cells (1-4+) | < 1+ | | |
| Sample volume (liters) | 75 | | |
| § TOTAL SPORES/m3 | | | 1,400 |

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m³ has been rounded to two significant figures to reflect analytical precision.



Report for:

Ms. Lesley Hunter, Mr. Chip Prokop
Air & Water Sciences
625 2nd Street, Suite 210
Petaluma, CA 94952

Regarding: Project: AWS 1963; M Co. Public Health
EML ID: 1764755

Approved by:

Dates of Analysis:
Direct microscopic exam (Qualitative): 07-25-2017

Technical Manager
Murali Putty

Service SOPs: Direct microscopic exam (Qualitative) (EM-MY-S-1039)
AIHA-LAP, LLC accredited service, Lab ID #102856

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

DIRECT MICROSCOPIC EXAMINATION REPORT

| Background Debris and/or Description | Miscellaneous Spores Present* | MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures† | Other Comments†† | General Impression |
|--|-------------------------------|--|------------------|--------------------|
| Lab ID-Version‡: 8245362-1, Analysis Date: 07/25/2017: Tape sample 369: Office 366 | | | | |
| Very Heavy | Very few | 4+ <i>Chaetomium</i> species (ascospores, ascomata, hyphae) | None | Mold growth |
| Lab ID-Version: 8245363-1, Analysis Date: 07/25/2017: Tape sample 370: Exterior wall | | | | |
| Heavy | Very few | 4+ <i>Chaetomium</i> species (ascospores, ascomata, hyphae) 1+ <i>Aspergillus</i> species (spores, hyphae, conidiophores) 1+ <i>Stachybotrys</i> species (spores, hyphae, conidiophores) | None | Mold growth |

* Indicative of normal conditions, i.e. seen on surfaces everywhere. Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Distribution of spore types seen mirrors that usually seen outdoors.

† Quantities of molds seen growing are listed in the MOLD GROWTH column and are graded <1+ to 4+, with 4+ denoting the highest numbers.

†† Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
 The limit of detection is < 1+ when mold growth is detected.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

MoldRANGE™: Extended Outdoor Comparison
Outdoor Location: 2101832, Outside NE

| Fungi Identified | Outdoor data | Typical Outdoor Data for: July in California† (n‡=20587) | | | | | | Typical Outdoor Data for: The entire year in California† (n‡=246813) | | | | | |
|--|--------------|---|-----|-----|-------|-----------|--------|---|-----|-----|-------|-----------|--------|
| | | very low | low | med | high | very high | freq % | very low | low | med | high | very high | freq % |
| Generally able to grow indoors* | spores/m3 | | | | | | | | | | | | |
| Alternaria | - | 13 | 13 | 27 | 67 | 110 | 60 | 13 | 13 | 27 | 67 | 110 | 53 |
| Bipolaris/Drechslera group | - | 7 | 13 | 13 | 27 | 53 | 14 | 7 | 13 | 13 | 27 | 53 | 12 |
| Chaetomium | - | 8 | 13 | 13 | 27 | 47 | 25 | 8 | 13 | 13 | 27 | 47 | 19 |
| Cladosporium | 640 | 160 | 270 | 640 | 1,500 | 2,400 | 98 | 110 | 210 | 610 | 1,700 | 2,800 | 97 |
| Curvularia | - | 7 | 13 | 13 | 33 | 53 | 8 | 7 | 13 | 13 | 27 | 53 | 7 |
| Epicoccum | - | 10 | 13 | 13 | 40 | 67 | 25 | 8 | 13 | 13 | 40 | 53 | 19 |
| Nigrospora | - | 7 | 13 | 13 | 27 | 44 | 7 | 7 | 13 | 13 | 33 | 53 | 9 |
| Other brown | 13 | 13 | 13 | 13 | 40 | 53 | 36 | 13 | 13 | 13 | 40 | 53 | 34 |
| Penicillium/Aspergillus types | 270 | 53 | 93 | 210 | 590 | 960 | 85 | 53 | 100 | 210 | 610 | 1,000 | 84 |
| Stachybotrys | - | 8 | 13 | 13 | 40 | 80 | 5 | 7 | 13 | 13 | 33 | 67 | 4 |
| Torula | - | 8 | 13 | 13 | 40 | 61 | 14 | 8 | 13 | 13 | 40 | 67 | 11 |
| Seldom found growing indoors** | | | | | | | | | | | | | |
| Ascospores | 210 | 13 | 40 | 80 | 210 | 370 | 68 | 27 | 53 | 110 | 370 | 750 | 71 |
| Basidiospores | 530 | 38 | 53 | 160 | 370 | 640 | 89 | 53 | 80 | 270 | 1,100 | 2,500 | 93 |
| Rusts | - | 13 | 13 | 13 | 53 | 80 | 28 | 13 | 13 | 13 | 53 | 89 | 26 |
| Smuts, Periconia, Myxomycetes | - | 13 | 13 | 47 | 120 | 210 | 71 | 13 | 13 | 40 | 120 | 210 | 68 |
| § TOTAL SPORES/m3 | 1,700 | | | | | | | | | | | | |

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, EMLab P&K may not have received and tested a representative number of samples for every region or time period. EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Client: Air & Water Sciences
C/O: Ms. Lesley Hunter, Mr. Chip Prokop
Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
Date of Receipt: 07-25-2017
Date of Report: 07-25-2017

MoldRANGE™: Extended Outdoor Comparison
Outdoor Location: 2101836, Outside South

| Fungi Identified | Outdoor data | Typical Outdoor Data for: July in California† (n‡=20587) | | | | | | Typical Outdoor Data for: The entire year in California† (n‡=246813) | | | | | |
|--|--------------|---|-----|-----|-------|-----------|--------|---|-----|-----|-------|-----------|--------|
| | | very low | low | med | high | very high | freq % | very low | low | med | high | very high | freq % |
| Generally able to grow indoors* | | | | | | | | | | | | | |
| Alternaria | - | 13 | 13 | 27 | 67 | 110 | 60 | 13 | 13 | 27 | 67 | 110 | 53 |
| Bipolaris/Drechslera group | - | 7 | 13 | 13 | 27 | 53 | 14 | 7 | 13 | 13 | 27 | 53 | 12 |
| Chaetomium | - | 8 | 13 | 13 | 27 | 47 | 25 | 8 | 13 | 13 | 27 | 47 | 19 |
| Cladosporium | 750 | 160 | 270 | 640 | 1,500 | 2,400 | 98 | 110 | 210 | 610 | 1,700 | 2,800 | 97 |
| Curvularia | - | 7 | 13 | 13 | 33 | 53 | 8 | 7 | 13 | 13 | 27 | 53 | 7 |
| Epicoccum | - | 10 | 13 | 13 | 40 | 67 | 25 | 8 | 13 | 13 | 40 | 53 | 19 |
| Nigrospora | - | 7 | 13 | 13 | 27 | 44 | 7 | 7 | 13 | 13 | 33 | 53 | 9 |
| Other brown | - | 13 | 13 | 13 | 40 | 53 | 36 | 13 | 13 | 13 | 40 | 53 | 34 |
| Penicillium/Aspergillus types | - | 53 | 93 | 210 | 590 | 960 | 85 | 53 | 100 | 210 | 610 | 1,000 | 84 |
| Stachybotrys | - | 8 | 13 | 13 | 40 | 80 | 5 | 7 | 13 | 13 | 33 | 67 | 4 |
| Torula | 27 | 8 | 13 | 13 | 40 | 61 | 14 | 8 | 13 | 13 | 40 | 67 | 11 |
| Seldom found growing indoors** | | | | | | | | | | | | | |
| Ascospores | 53 | 13 | 40 | 80 | 210 | 370 | 68 | 27 | 53 | 110 | 370 | 750 | 71 |
| Basidiospores | 530 | 38 | 53 | 160 | 370 | 640 | 89 | 53 | 80 | 270 | 1,100 | 2,500 | 93 |
| Rusts | - | 13 | 13 | 13 | 53 | 80 | 28 | 13 | 13 | 13 | 53 | 89 | 26 |
| Smuts, Periconia, Myxomycetes | 27 | 13 | 13 | 47 | 120 | 210 | 71 | 13 | 13 | 40 | 120 | 210 | 68 |
| § TOTAL SPORES/m3 | 1,400 | | | | | | | | | | | | |

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

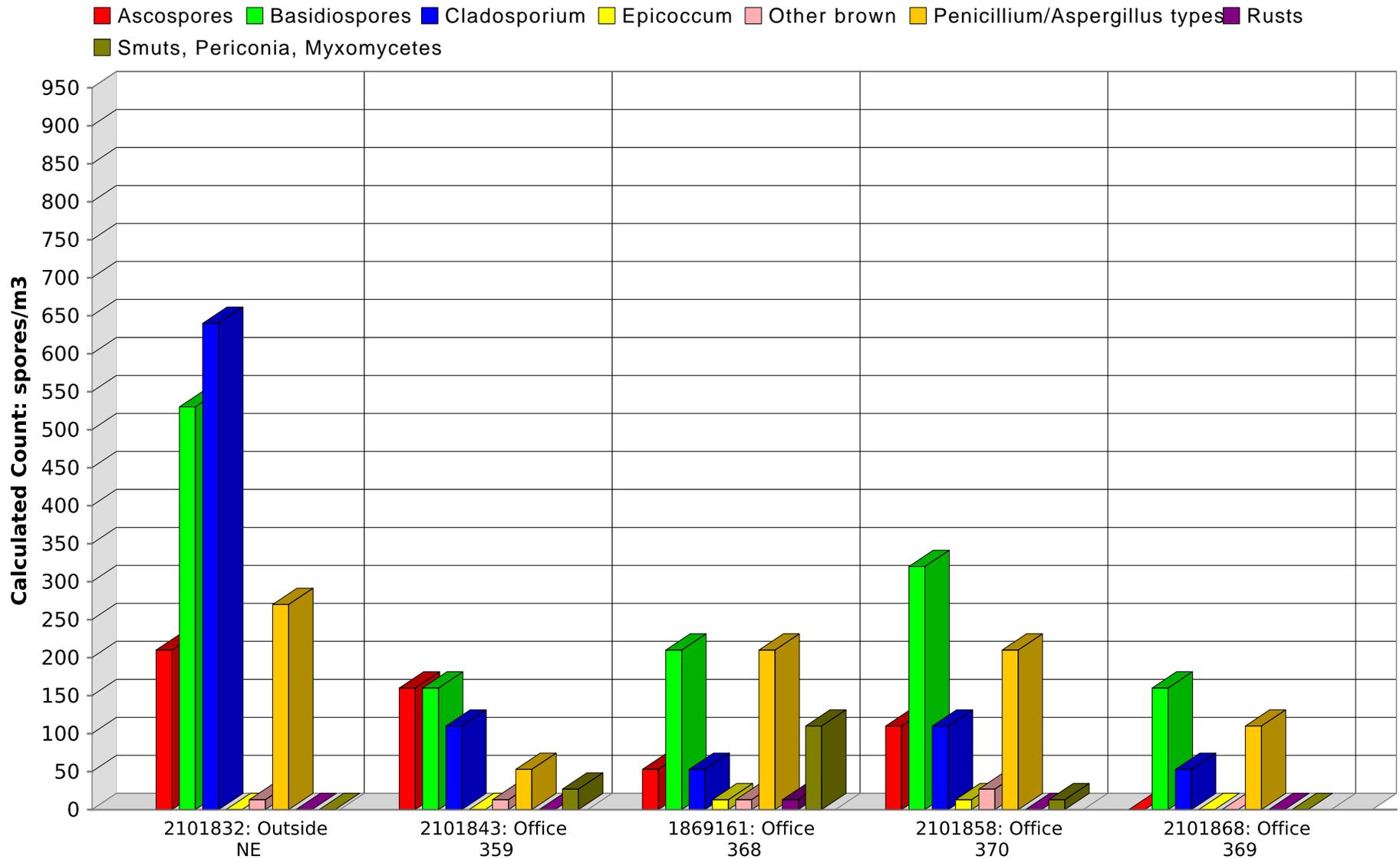
* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

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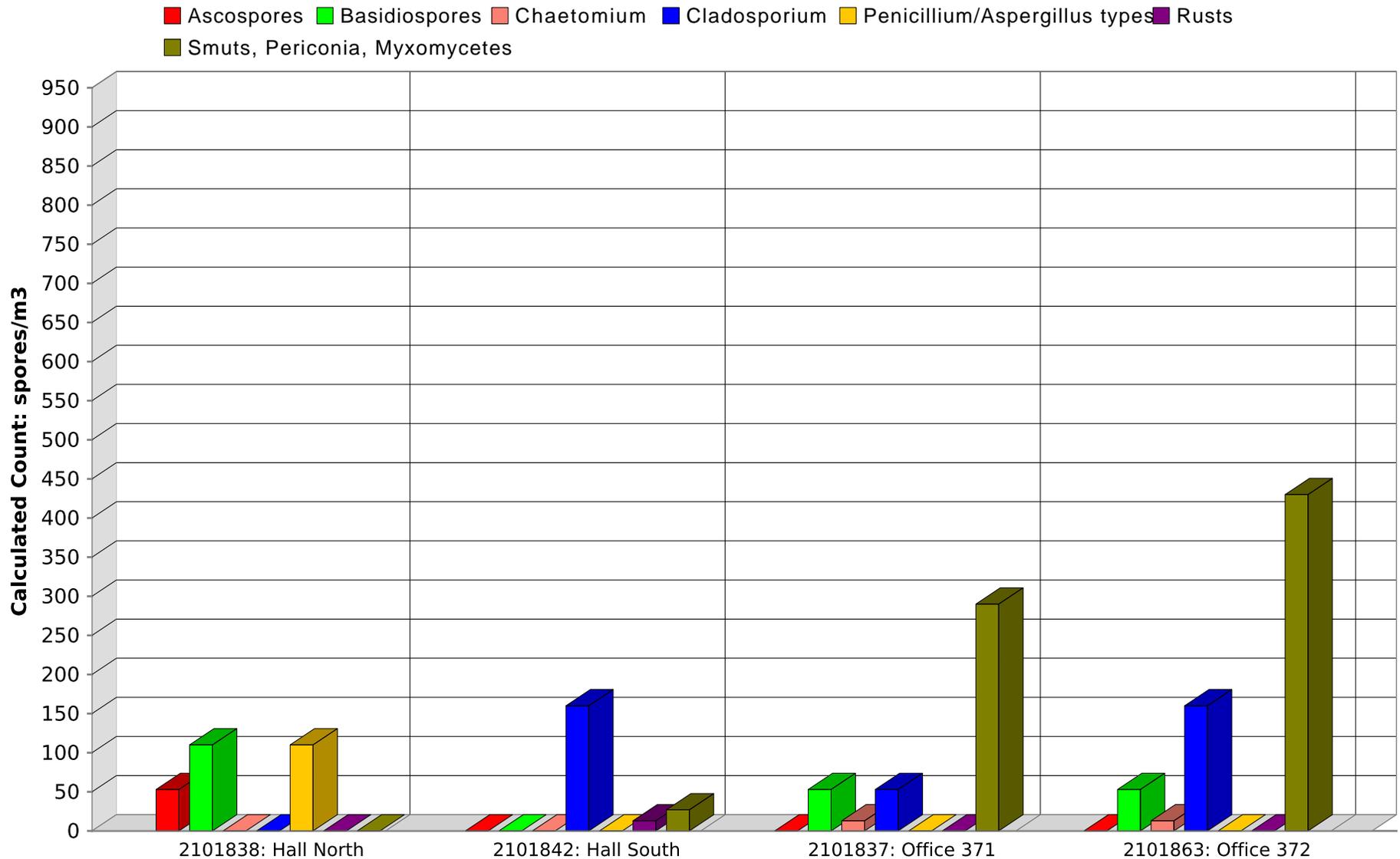
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera.
 EMLab P&K, LLC

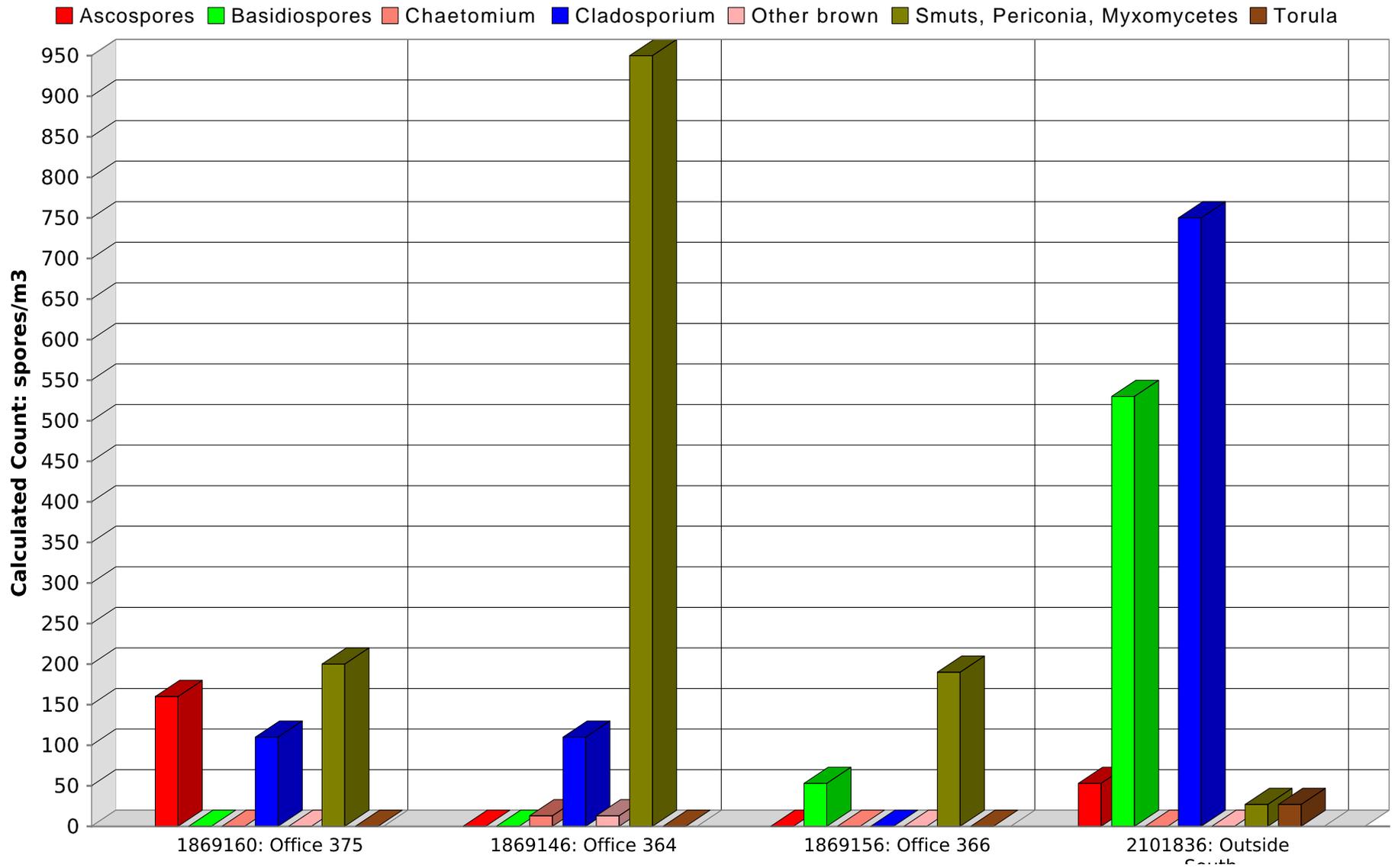
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera.
 EMLab P&K, LLC

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera.
 EMLab P&K, LLC



Report for:

Ms. Lesley Hunter, Mr. Chip Prokop
Air & Water Sciences
625 2nd Street, Suite 210
Petaluma, CA 94952

Regarding: Project: AWS 1963; M Co. Public Health
EML ID: 1764755

Approved by:

Dates of Analysis:
Direct microscopic exam (Qualitative): 07-25-2017

Technical Manager
Murali Putty

Service SOPs: Direct microscopic exam (Qualitative) (EM-MY-S-1039)
AIHA-LAP, LLC accredited service, Lab ID #102856

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

DIRECT MICROSCOPIC EXAMINATION REPORT

| Background Debris and/or Description | Miscellaneous Spores Present* | MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures† | Other Comments†† | General Impression |
|--|-------------------------------|---|------------------|--------------------|
| Lab ID-Version‡: 8245362-1, Analysis Date: 07/25/2017: Tape sample 369: Office 366 | | | | |
| Very Heavy | Very few | 4+ <i>Chaetomium</i> species | None | Mold growth |
| Lab ID-Version: 8245363-1, Analysis Date: 07/25/2017: Tape sample 370: Exterior wall | | | | |
| Heavy | Very few | 4+ <i>Chaetomium</i> species 1+ <i>Aspergillus</i> species 1+ <i>Stachybotrys</i> species | None | Mold growth |

* Indicative of normal conditions, i.e. seen on surfaces everywhere. Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Distribution of spore types seen mirrors that usually seen outdoors.

† Quantities of molds seen growing are listed in the MOLD GROWTH column and are graded <1+ to 4+, with 4+ denoting the highest numbers.

†† Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
 The limit of detection is < 1+ when mold growth is detected.

Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 07-25-2017

Mold/Fungal Growth Rating Details

| | | |
|-----------------------------|--|--|
| Growth Rating | Quantities of molds indicating growth are listed in the MOLD/FUNGAL GROWTH section. Judgement is used in determining the amount of growth present in the sample. For example, if only one portion of the sample has evidence of heavy growth, then it will receive a rating of heavy growth even though, strictly speaking, on a percentage basis of the entire sample, the amount of growth is low. | |
| | Swab/Tape/Dust/Wipe sample | Bulk Sample |
| < 1+ (Very Light Growth) | Evidence of very light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in less than 10% of the microscopic fields examined. | Areas of very light growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample. |
| 1+ (Light Growth) | Evidence of light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 10 to 25% of the microscopic fields examined. | Areas of light growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample. |
| 2+ (Moderate Growth) | Evidence of moderate growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 26 to 50% of the microscopic fields examined. | Areas of moderate growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample. |
| 3+ (Heavy Growth) | Evidence of heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 51 to 75% of the microscopic fields examined. | Areas of heavy growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample. |
| 4+ (Very Heavy Growth) | Evidence of very heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found to be nearly confluent in the majority of the microscopic fields examined. | Areas of very heavy growth detected by the presence of spores of one type seen with underlying mycelial and/or with their sporulating structures in the bulk sample. |

Miscellaneous Spores

Slides/specimens are examined for the presence of mold spores and pollen, noting the quantities and distribution of spore types found. A designation of 'normal trapping' is made when a mix of spore types is present with the same general distribution as is usually found outdoors. In other words, the biological component of the sample surface is like that found everywhere. Types of spores present would include basidiospores (mushroom spores), myxomycetes (slime molds), plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Many of these spore types would not be found growing indoors on building materials since many plant pathogens require living plants for growth, and mushrooms require compost, leaf duff of various types, or associations with roots of certain trees, etc. Due to these factors, when a mix of spores seen include these types as well as pollen, the rational source is the outside air, rather than indoor mold growth. The numbers of miscellaneous spores seen are graded and described as shown below as none, very few, few, variety, and wide variety.

| | | | | |
|--------------------|--------------------------|-----------------------|---|--|
| None | Very Few | Few | Variety | Wide Variety |
| No spores detected | Very few spores detected | A few spores detected | Many spores containing a variety of different genera detected | Many spores containing a wide variety of different genera detected |



Report for:

Ms. Lesley Hunter, Mr. Chip Prokop
Air & Water Sciences
625 2nd Street, Suite 210
Petaluma, CA 94952

Regarding: Project: AWS 1963; M Co. Public Health
EML ID: 1764755

Approved by:

Dates of Analysis:

1-Media fungi surface culture (Incl. Asp spp.): 08-03-2017

Technical Manager
Murali Putty

Service SOPs: 1-Media fungi surface culture (Incl. Asp spp.) (EM-PR-S-1040 & EM-MY-S-2584)
AIHA-LAP, LLC accredited service, Lab ID #102856

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

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Client: Air & Water Sciences
 C/O: Ms. Lesley Hunter, Mr. Chip Prokop
 Re: AWS 1963; M Co. Public Health

Date of Sampling: 07-24-2017
 Date of Receipt: 07-25-2017
 Date of Report: 08-03-2017

FUNGAL CULTURE REPORT

| Lab ID-Version‡ Location Analysis Date | Sample Size/ Report Unit | Medium | Dilution Factor | Fungal ID | Colony Counts | CFU/unit | % |
|--|--|--------|-----------------|-------------------|---------------|----------|----|
| 8245560-1 D371 Carpet dust Analysis date: 08/03/2017 | Size: 0.025 gram Unit: 1 gram | MEA | 100 | Aureobasidium | 4 | 16,000 | 4 |
| | | | | Cladosporium | 7 | 28,000 | 8 |
| | | | | Penicillium | 66 | 260,000 | 70 |
| | | | | Rhizopus | 1 | 4,000 | 1 |
| | | | | Ulocladium | 1 | 4,000 | 1 |
| | | | | Yeasts | 15 | 60,000 | 16 |
| | | | | § Total: 380,000 | | | |
| Comments: Total weight of collected sample was 0.054 grams. Analysis of replicate sample is delayed. | | | | | | | |
| 8245561-1 D375 Carpet dust Analysis date: 08/03/2017 | Size: 0.025 gram Unit: 1 gram | MEA | 10 | Aspergillus niger | 2 | 800 | 3 |
| | | | | Aureobasidium | 12 | 4,800 | 17 |
| | | | | Cladosporium | 46 | 18,000 | 63 |
| | | | | Penicillium | 11 | 4,400 | 15 |
| | | | | Rhizopus | 1 | 400 | 1 |
| § Total: 29,000 | | | | | | 100 | |
| Comments: Total weight of collected sample was 0.078 grams. Analysis of replicate sample is delayed. | | | | | | | |

The limit of detection is a raw count of 1 at the lowest dilution plated. The analytical sensitivity is equal to 1 raw count/reporting unit x the dilution factor.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total has been rounded to two significant figures to reflect analytical precision.

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San Bruno, CA: 1150 Bayflat Drive, #100, San Bruno, CA 94066 • (866) 888-6651

| Weather | Fog | Rain | Snow | Wind | Clear |
|----------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| None | <input type="checkbox"/> |
| Light | <input type="checkbox"/> |
| Moderate | <input type="checkbox"/> |
| Heavy | <input type="checkbox"/> |

CONTACT INFORMATION

Company: Air & Water Sciences
 Contact: Chip Prokop/Lesley Hunter
 Phone: (707) 769-2289
 Address:
 Special Instructions:

PROJECT INFORMATION

Project ID: A115 1942
 Project Description: M. Co. Public Health
 Project Zip Code:
 PO Number:
 Sampling Date & Time: 7/24/17
 Sampled By: [Signature]
 STD - Standard (DEFAULT)
 ND - Next Business Day
 SD - Same Business Day Rush
 WH - Weekend / Holiday

TURN AROUND TIME CODES (TAT)

| TAT | Total Volume / Area (as applicable) | Notes (Time of day, Temp, RH, etc.) |
|-----|-------------------------------------|-------------------------------------|
| STD | | |
| ND | | |
| SD | | |
| WH | | |

| Sample ID | Description | Sample Type (label) | TAT (above) | Total Volume / Area (as applicable) | Notes (Time of day, Temp, RH, etc.) |
|-----------|----------------------|---------------------|-------------|-------------------------------------|-------------------------------------|
| 369 | Indoor Wall | T | STD | | |
| 370 | Exterior Wall | T | STD | | |
| D371 | Carpet Dust | B | STD | | |
| D375 | Carpet Dust | B | STD | | |
| 1869156 | Office 366 | ST | STD | 75 | |
| 2101436 | Office Outside South | ST | STD | 75 | |

REQUESTED SERI 001764755
(Use checkboxes to)

| Non-Culturable | Culturable | Culture Requests |
|---|------------|--|
| Spore Trap | Tap | BioCassette™, Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plates |
| Spore Trap Analysis | Swab | |
| Direct Microscopic Exam (Qualitative) | Bulk | |
| Quantitative Spore Count Direct Exam | | |
| 1-Media Surface Fungi (Genus ID + Asp. spp.) | | |
| 2-Media Surface Fungi (Genus ID + Asp. spp.) | | |
| 3-Media Surface Fungi (Genus ID + Asp. spp.) | | |
| Culturable Air Fungi (Genus ID + Asp. spp.) | | |
| Gram Stain & Counts (Culturable Air & Surface Bacteria) | | |
| Legionella culture | | |
| Total Coliform, E. coli (Presence/Absence) | | |
| Membrane Filtration (specify organism): | | |
| MPN Bacteria (specify organism): | | |
| GuardTray - Sewage Screen | | |
| Asbestos Analysis - PCM Airborne Fiber Count (NIOSH 7400) | | |
| Asbestos Analysis - PLM (EPA method 600/4-93-110) | | |
| PCR (specify test): | | |
| Fungal Culture & Genus ID + Asp spp | | |

SAMPLE TYPE CODES

| | | | |
|---------------------------|------------------------|-----------|-----------|
| BC - BioCassette™ | ST - Spore Trap, Zabon | T - Tap | D - Dust |
| AS - Andersen | Allegeno, Burkard ... | SW - Swab | SO - Soil |
| SAS - Surface Air Sampler | P - Potable Water | B - Bulk | |
| CP - Contact Plate | NP - Non-Potable Water | O - Other | |

RELINQUISHED BY

[Signature]

DATE & TIME

7/24/17

RECEIVED BY

[Signature]

DATE & TIME

7-25-17
10:20am

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at <http://www.earth.com/instruments/terms.html>

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