



**Environmental
& Remediation &
Management, Inc.**

**LIMITED FUNGI (MOLD)
EVALAUTION**

CONDUCTED AT:

**Walton School
Wing C (Rooms 21 & 24)
601 Mountain Ave.,
Springfield, NJ 07081**

CONDUCTED FOR:

**Springfield Board of Education
139 Mountain Ave
Springfield, NJ 07081**

ER&M, INC. PROJECT NO.: **1035-283**

REPORT PREPARED BY

FREDERICK LARSON

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JANUARY 15, 2018

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ATTACHED at the end: laboratory analytical reports, rough drawing layout of area of concern,
credentials



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Project No.: 1035-283

December 22, 2018

**Mr. William Knorr, Supervisor of Bldgs & Grounds
Springfield Board of Education
139 Mountain Ave
Springfield, NJ 007081**

**Re: Limited Mold (fungi) air testingg & evaluation @ Walton School, 601 Mountain Ave,
Springfield, NJ 07081 (specifically the Wing C, Rooms 21 & 24)**

Dear Mr. Knorr;

As per your request, On January 12, 2018 ER&M, Inc.'s Technician performed air sampling and visual evaluation pertaining to suspected fungal (Mold) presence in Wings C, Rooms 21 & 24 (area of concern) of the school. This sampling event was conducted as a follow up to previous sampling and remedial; clean-up work performed in the areas of concern.

The findings presented herein are subject to the limitations indicated at the end of this report.

1. Air-O-Cell sampling was performed to check for airborne fungal (mold) spores and other airborne particulates in every room in area of concern. Additionally, an outdoor background reference sample was collected for comparison purposes. Air-O-Cell samples were collected and analyzed using the manufactures procedures and guidelines. All samples were submitted to EMSL Analytical, Inc.'s laboratories in Piscataway, NJ for analysis.

OBSERVANCES ON 1-12-2018

- No odor indicative of mold (musty) was observed by our technician at time of evaluation in any of the areas of concern. However, in Room 21, an odor more typical of wet soil was observed. We were made aware that remedial work, disinfection and the removal of water damaged materials had taken place in Room 21. Additionally air scrubbers had been run to clean the air as well.
- Room 24 noted as visually clean, In Room 21 part of the flooring has been removed exposing the subfloor (wooden studs and fiberglass, etc.)



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RESULTS

Analysis of the Air-O-Cell cassettes in Room 24 indicated "low" total spore counts of common fungi, and was significantly lower than the outdoor comparison QA/QC sample and significantly lower than the last time it was sampled on 12-19-17.

Analysis of the Air-O-Cell cassettes in Room 21 indicated significantly lower (approx. 1/3) than the outdoor comparison QA/QC sample, and lower than the last time it was sampled on 12-19-17.

Typically outside air samples are used to determine what kinds of molds and levels will be present for an indoor environment. The outside samples indicated significantly higher spore counts than the Rooms 21 and 24 (See attached laboratory reports).

The fungal spore type "*Stachybotris*" (media deemed "toxic black mold") was not detected in any of the samples collected.

MOLD REPORT OVERVIEW

Molds are microscopic organisms that can be found almost everywhere. Their spores are lightweight allowing them to travel through air and when found in excessive quantities can cause allergic reactions.

The mold(s) identified in this report are often associated with soils, moisture enriched environments, water, and deteriorating materials such as cellulose (paper) based products. Mold is naturally present in outdoor environments, and can be a problem in indoor environments at high levels. Mold can grow on virtually any organic substance, as long as moisture and oxygen are present. When excessive moisture accumulates in buildings or on building materials, mold growth will often occur, particularly if the moisture problem remains undiscovered or unaddressed it is impossible to eliminate all molds and mold spores in the indoor environment. Since mold requires water/moisture to grow, it is important to prevent moisture problems in buildings.



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Since mold requires water/moisture to grow, it is important to prevent moisture problems in buildings. Some moisture problems in buildings have been linked to changes in building construction practices during the 1970's, 80's, and 90's. Some of these changes have resulted in buildings that are tightly sealed, but may lack adequate ventilation, which will potentially lead to moisture buildup. Building materials, such as drywall, may not allow moisture to escape easily. Moisture problems may include roof leaks, plumbing leaks, landscaping or gutters that direct water into or under the building, and unvented combustion appliances.

Active mold growth in indoor environments such as subject property is inappropriate and may lead to exposure and adverse health effects. The most common symptoms of mold exposure are runny nose, eye irritation, cough, congestion, and aggravation of asthma. Individuals with persistent health problems that appear to be related to mold or other types of air quality contaminant exposure should see their physicians for a referral to professionals who are trained in occupational/environmental medicine or related specialties and are knowledgeable about these types of exposures.

UNDERSTANDING TYPES OF MOLD

Allergenic molds are normally not dangerous in low amounts, but they can cause allergic or asthmatic symptoms such as wheezing or a runny nose. These molds can be abated safely with the assistance of gloves and the use of respiratory protection, such as a disposable particulate-removing respirator.

Mycotoxic molds can cause serious health effects in humans and animals. Health effects range from short-term irritation, to immunosuppressant, to cancer and death. If any toxic molds are identified, it is suggested that you seek advice from an Industrial Hygienist or other mold professional for guidance. The average homeowner should NOT attempt the removal of these types of mold.

Pathogenic molds can cause serious health effects in persons with suppressed immune systems, those taking chemotherapy, those with HIV/AIDS, or autoimmune disorders. If any pathogenic molds are identified, it is suggested you seek advice of an Industrial Hygienist or other mold professional for guidance. The average homeowner should NOT attempt the removal of these types of mold.



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Currently there are no official government standards or reference ranges for acceptable levels of microorganisms in fungi spore counts, air, bulk, and wipe samples derived from indoor environments. However, if Indoor fungi spore counts results are elevated they should be comparatively lower than the outside/ambient levels.

Dept of Health and Human Services - Centers for Disease Control and Prevention -
"standards for judging what is and what is not an acceptable or tolerable quantity of mold have not been established."

Since the USEPA or other governing bodies have not developed standards or reference ranges for acceptable levels of fungi (mold) spore counts, ER&M, Inc. has referenced other organizations and our experience and training for guidance in determining interpretation of results.

The National Allergy Bureau - : "Considers mold counts in air of 0-900 as low, to 2500 as moderate, to 25,000 as high, and above 25,000 as very high. At "high" levels most individuals with any sensitivity will experience symptoms. Acceptable levels for individual species vary since species toxicity varies widely as does spore size, weight, and other features which affect risk to building occupants. E.g. Aspergillus/Penicillium in a "clean" residential building study was at a mean of 230, in buildings known to have a moisture or flooding problem it was at 2235 and in mold contaminated buildings the figure was 36,037."

IN CONCLUSION

Based upon the information ER&M gathered during our Rooms 21 & 24 evaluations & with analysis of samples collected; indications of the presence of very common fungi species at low (Room 24) and moderate (Room 21) concentrations/levels were observed. Total fungal spore counts from samples collected from both subject areas were significantly lower than comparative outdoor sample and lower than previous 12-19-17 sample event. Therefore, ER&M does not draw any conclusions indicating that the total fungal spore counts in the subject spaces are elevated above typical levels for New Jersey on that day. Based upon the information gathered during our evaluation, analysis of samples collected results do not indicate the need for additional fungal/mold remediation to be performed. Should odors indicative of mold (musty) be observed or any visual evidence of water or mold staining then further remediation and/or evaluations will be necessary.



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The fungal species that were identified in this report are commonly found everywhere and usually pose little health problems except in very high concentrations and/or to individuals with diminished immune function. Please keep in mind that fungi testing has its limitations as airborne counts can vary greatly from day to day, season to season with a multitude of factors influencing fungal activity.

The fungi's discovered during this project are commonly found in the air of buildings and growing on damp surfaces. Fungi/Mold found indoors often comes from outdoor mold/fungi sources, consequentially the average person is exposed to some level of mold/fungi on a daily basis without apparent injury. Usually mold spores are the cause of health related problems only when inhaled in significant quantities.

Each person can react differently to mold and resistance among people varies significantly. A general rule to follow is; if mold is visible or its odor perceptible, corrective action to eliminate the excess moisture, as well as cleanup/ remove the mold/fungi and any material contaminated by it is necessary.

Should any univent, plumbing or other leaks occur, the moisture needs to be dried up as soon as possible and any materials that get moist or wet be dried and/or disposed. Moisture issues should be promptly addressed or the possibility of fungi growth is increased.

LIMITATIONS

The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services. The conclusions and recommendations contained in this report are based on limited environmental testing, and were arrived at in accordance with generally accepted standards of for limited fungi testing and evaluations. The testing conducted at the site was limited in scope, and cannot be considered representative of areas not tested, nor of time periods other than during the testing period.



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If you have any questions, or if we could be of any further assistance, please feel free to contact our office. ER&M, Inc. looks forward to providing you with the service and attention to detail that you have come to expect from us.

Sincerely,
ER&M Inc.

A handwritten signature in cursive script that reads 'Frederick Larson'. The signature is written in black ink and is positioned above a horizontal line.

Frederick Larson, Vice President

Attached: Field Observations, laboratory analytical reports, rough drawing,
Contractor's certificate of completion, credentials



EMSL Analytical, Inc.

1056 Steflon Road Piscataway, NJ 08854
Tel/Fax: (732) 881-0550 / (732) 981-0551
<http://www.EMSL.com/piscatawaylab@emsl.com>

EMSL Order: 051800178
Customer ID: ENVI76
Customer PO:
Project ID:

Attn: Results
Environmental Remediation & Management
20-10 Maple Ave
Building 35E
Fair Lawn, NJ 07410
Project: 1035-283/Springfield Board Of Education, Walton School-Wing C, 601 Mountain Ave, Springfield, NJ 07081

Phone: (973) 949-3525
Fax: (973) 949-3526
Collected: 01/12/2018
Received: 01/12/2018
Analyzed: 01/12/2018

Test Report: Air-O-Cell™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

| Lab Sample Number: | 051800178-0001 | | | 051800178-0002 | | | 051800178-0003 | | |
|---------------------------|--------------------------------|----------------------|------------|----------------|----------------------|------------|-------------------------------|----------------------|------------|
| Client Sample ID: | M022-2 | | | M-022-1 | | | M022-3 | | |
| Volume (L): | 150 | | | 150 | | | 150 | | |
| Sample Location: | Room 21-Section B by Wallboard | | | Room 24-Middle | | | Outside Comparison-Court Yard | | |
| Spore Types | Raw Count | Count/m ³ | % of Total | Raw Count | Count/m ³ | % of Total | Raw Count | Count/m ³ | % of Total |
| Alternaria | - | - | - | - | - | - | - | - | - |
| Ascospores | 4 | 80 | 2 | 2 | 40 | 11.1 | 352 | 7220 | 60.7 |
| Aspergillus/Penicillium | 21 | 430 | 10.8 | 4 | 80 | 22.2 | - | - | - |
| Basidiospores | 2 | 40 | 1 | - | - | - | 222 | 4550 | 38.3 |
| Bipolaris++ | - | - | - | - | - | - | - | - | - |
| Chaetomium | 23 | 470 | 11.8 | 2 | 40 | 11.1 | - | - | - |
| Cladosporium | - | - | - | - | - | - | - | - | - |
| Curvularia | - | - | - | - | - | - | - | - | - |
| Epicoccum | - | - | - | - | - | - | - | - | - |
| Fusarium | - | - | - | - | - | - | - | - | - |
| Ganoderma | - | - | - | - | - | - | - | - | - |
| Myxomycetes++ | - | - | - | - | - | - | - | - | - |
| Phanerochaete | - | - | - | - | - | - | - | - | - |
| Rust | - | - | - | - | - | - | - | - | - |
| Scopulariopsis | - | - | - | - | - | - | - | - | - |
| Stachybotrys | - | - | - | - | - | - | - | - | - |
| Torula | - | - | - | - | - | - | - | - | - |
| Ulocladium | - | - | - | - | - | - | - | - | - |
| Unidentifiable Spores | - | - | - | - | - | - | - | - | - |
| Zygomycetes | - | - | - | - | - | - | - | - | - |
| Arthrinium | - | - | - | - | - | - | 7 | 100 | 0.8 |
| Microascus | 143 | 2930 | 73.8 | 8 | 200 | 55.6 | 1 | 20 | 0.2 |
| Petriella | 1 | 20 | 0.5 | - | - | - | - | - | - |
| Total Fungi | 184 | 3970 | 100 | 16 | 360 | 100 | 582 | 11890 | 100 |
| Hyphe Fragment | 4 | 80 | - | - | - | - | - | - | - |
| Insect Fragment | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - |
| Analyt. Sensitivity 600x | - | 21 | - | - | 21 | - | - | 21 | - |
| Analyt. Sensitivity 300x | - | 7* | - | - | 7* | - | - | 7* | - |
| Skin Fragments (1-4) | - | 1 | - | - | 1 | - | - | 1 | - |
| Fibrous Particulate (1-4) | - | 1 | - | - | 1 | - | - | 1 | - |
| Background (1-5) | - | 1 | - | - | 1 | - | - | 2 | - |

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smul

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. *** Denotes particles found at 300X. ** Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ ANA-LAP, LLC-ENLAP Accredited #167035

Initial report from: 01/15/2018 08:17:36

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

051800178

Environmental Remediation & Management, Inc.
 20-10 Maple Avenue
 Building 35E
 Fair Lawn, NJ 07410

Ph: (973) 949-3525
 Fax: (973) 949-3526
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CLIENT: Springfield Board of Education ADDRESS: 139 Mountain Ave., Springfield, NJ 07081
 PROJECT: Walton School-Wing C ADDRESS: 601 Mountain Ave., Springfield, NJ 07081
 TECH: Pollina Shchutckaia Env:18-022 SAMPLE DATE: 1/12/18 CALIB. DATE: 1/12/18 PR. No.: 1035-283

AIR-O-Cell (fungi) MONITORING DATA SHEET

| Sample No. | Sample Location | Time (on) | Time off | Elapsed Time (Min) | Flow Rate (LPM) | Volume Liters | Air-O-Cell Serial # |
|------------|---------------------------------|-----------|----------|--------------------|-----------------|---------------|---------------------|
| M022-2 | Room 21 - section by wallboard. | 10:12 | 10:32 | 10 | 15 | 150 | 24205539 |
| M022-1 | Room 24 - middle | 10:18 | 10:28 | 10 | 15 | 150 | 24205420 |
| M022-3 | Outside comparison - court yard | 10:39 | 10:49 | 10 | 15 | 150 | 24205444 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Chain of Custody

| Relinquished By: | Received By: | Date / Time |
|-----------------------|--------------|-------------------|
| <i>P. Shchutckaia</i> | | <i>01/12/2018</i> |
| | | |

Analysis type: Total Fungal Spore Count - Air-O-Cell

TAT: 24 Hour TAT requested

Fax: (973) - 949-3526

Email: ermnj@aol.com

Laboratory Submitted To: EMSL
RECEIVED

JAN 12 2018

BY *CAW* 1144 AM page 1 of 1
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