

Indoor Air Quality (IAQ) - Mold Report

Wyoming Valley West High School
150 Wadham Street
Plymouth, PA, 18651



ENVIRONMENTAL ABATEMENT ASSOCIATES, INC.

February 21st, 2024

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WWW High School
150 Wadham Street
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MOLD AIR SAMPLE ANALYSIS RESULTS ACCREDITATIONS

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INDOOR AIR QUALITY INSPECTION / TESTING REPORT

Prepared for:

Frank Grevera

For the properties known as:

150 Wadham Street
Plymouth, PA, 18651

This Indoor Air Quality Inspection / Testing report prepared by Environmental Abatement Associates, Inc. is based on information supplied by the client and on conditions readily observable or measurable on the date of this study. Any inspection and/or testing conducted by Environmental Abatement Associates, Inc. is not meant to determine whether a building is safe or unsafe for occupants in regards to indoor air quality. Interior building conditions vary constantly, therefore the findings and results presented in this report should be considered relative to and representative of the conditions that existed at the time of the inspection and testing. The results and recommendations presented herein should not be relied upon exclusively for the prevention of all possible illnesses, injuries or losses. These services are a supplement to, and not a substitute for, the client's responsibility for protecting the health and safety of employees, students, residents and others and for complying with applicable laws and regulations. Environmental Abatement Associates, Inc. warrants that its work is performed in a competent and professional manner. No other warranties are expressed or implied.

1.0 INTRODUCTION AND BACKGROUND

Personnel of ENVIRONMENTAL ABATEMENT ASSOCIATES, INC. (EAA) were on site Friday, February 16th 2024 at 150 Wadham Street, Plymouth, Pennsylvania to conduct an Indoor Air Quality (IAQ) inspection and testing. The inspection and testing was conducted at the request of Frank Grevera

2.0 EVALUATION STRATEGY

The general strategy employed in this evaluation was to:

1. CONDUCT A VISUAL INSPECTION IN DESIGNATED AREAS.
2. CONDUCT MOLD AIR SAMPLING IN DESIGNATED AREAS.
3. PROVIDE A REPORT OF FINDINGS AND RECOMMENDATIONS.

A visual inspection was conducted in designated areas. The inspection was not intended to be an intensive and detailed inspection, but rather an overview of the conditions that may cause poor indoor air quality. The condition of walls, floor, ceilings, etc. were examined for mold growth and any potential problems that could initiate mold growth were noted.

A total of six (6) mold air the samples were collected on interior of buildings using Allergenco-D sampling cassettes manufactured by Environmental Monitoring Systems and a high volume air sampling pump. One (1) air sample was also collected outside the back door in order to establish a background to be used when interpreting the results of the indoor air samples. Per manufacturer recommendations, each air sample was collected at a flow rate of fifteen (15) liters of air per minute (L/M) for a period of five (5) minutes.

Air samples were logged, labeled and shipped overnight to EMSL Analytical, Inc., an American Industrial Hygiene Association (AIHA) accredited microbiology laboratory, for analysis by microscopic examination.

3.0 DISCUSSION AND CONCLUSIONS

Molds are part of the natural environment and are simple, microscopic organisms whose purpose is to break down dead materials. Molds can be found on plants, dry leaves, and about every other organic material. Mold spores are lightweight and are spread by air currents. If spores land on a suitable surface, they will begin to grow. In order to thrive, mold requires four things to grow: water, organic materials, oxygen, and a temperature between 40-90 degrees Fahrenheit.

To stop the growth of mold, find and stop the moisture source. Mold spores will not grow if moisture is not present.

1. Aspergillus Penicillium

a. Aspergillus species are filamentous fungi that are commonly found in soil, decaying, vegetation, seeds and grains where they thrive as saprophytes. Aspergillus species can occasionally be harmful to humans. In humans, Aspergillus fumigatus is the most common and life-threatening airborne opportunistic fungal pathogen, which is particularly important among immunocompromised hosts. Inhaling Aspergillus fumigatus spores (conidia) into the lungs may cause multiple diseases, which depend on the immunological status of the host in humans. These diseases include invasive pulmonary aspergillosis, aspergilloma, and different forms of hypersensitivity, pneumonitis, and allergic bronchopulmonary aspergillosis (ABPA).

2. Cladosporium

a. Most kinds of Cladosporium are not dangerous to humans, but sometimes they may lead to allergies, or they may worsen asthma. In worse cases, Cladosporium may lead to infections. In most cases if you open some windows or install a heat recovery ventilator (HRV). These measures will help stop new mold from forming, but will not kill active Cladosporium spores already there. For that you will need a non-toxic registered fungicide such as Concrobium.

3. Basidiospores

a. Inhalation of basidiospores can have health effects ranging from pneumonia-like symptoms to cryptococcus meningitis if the infection isn't treated before it spreads to the brain. The list of environments in which this class of molds thrives is extensive. Sources range from old fruit to damp acrylic painted walls. Detection of Basidiospores at levels higher than 5,000 count per cubic meter are considered problematic.

4. Ascospores

a. This group contains potential opportunistic pathogens, toxin producers, and allergens depending on the genus and species. Ascospores do present a human health risk but few have been reported to cause disease.

All sample locations came back with very low numbers

These findings indicate that mold remediation is not needed.

Respectfully Submitted,

Russ Bigus, M.S., Biology
Professor of Microbiology

Mold Air Sample Analysis Results



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Microbiology Chain of Custody Form

EMSL Order Number / Lab Use Only

EMSL Analytical, Inc.
5221 Millia Hill Rd

Plymouth Meeting, PA 19462
PHONE: (610) 828-3102
EMAIL: plymouthmeetinglab@emsl.com

182400698

If Bill-To is the same as Report-To leave this section blank. Third-party billing requires written authorization.

Customer Information	Customer ID:	Billing ID:
	Company Name: Environmental Abatement Associates, Inc.	Company Name: Environmental Abatement Associates, Inc.
	Contact Name: Christopher Tsioles	Billing Contact: Christopher Tsioles
	Street Address: 239 Schuyler avenue suite 125B	Street Address: 239 Schuyler avenue suite 125B
	City, State, Zip: KINGSTON PA 18704 Country: US	City, State, Zip: KINGSTON PA 18704 Country: US
	Phone: 570-283-0500	Phone: 570-283-0500
Email(s) for Report: eaawdt@verizon.net	Email(s) for Invoice:	

Project Information

Project Name/No: 24-7.1 WWV High School	Purchase Order:
EMSL LIMS Project ID: (If applicable, EMSL will provide)	State of Connecticut (CT) must select project location: <input type="checkbox"/> Commercial (Taxable) <input type="checkbox"/> Residential (Non-taxable)
State Samples Collected: PA	Zip Code Samples Collected: 18651

Sampled By Name: Christopher Tsioles	Sampled By Signature:	No. of Samples in Shipment: 7
---	-----------------------	--------------------------------------

Sterile, Sodium Thiosulfate Preserved Bottle Used: Biocide Used in Source (specify) _____
 Public Water Supply Samples: Note: All results may automatically be reported to DOH if required by State.
 Turn-Around-Time (TAT) Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am.
 3 Hour 6 Hour 24 Hour 32* Hour 48 Hour 72 Hour 96 Hour 1 Week 2 Week

MICROBIOLOGY TEST CODES

M001 Air-O-Cell	M174 MoldSnap	M012 Pseudomonas aeruginosa (PIA**)	M115 Sewage Screen - Water (PIA**)
M030 Micro 5	M032 Allergenco-D	M024 Pseudomonas aeruginosa (MFT*)	M116 Sewage Screen - Water (MPN**)
M041 Fungal Direct Examination		M015 Heterotrophic Plate Count	M117 Sewage Screen - Swab (PIA***)
M169 Pollen ID & Enumeration		M017 Total Coliform & E. Coli (ColiAlert PIA***)	M013 Sewage Screen - Swab (MFT*)
M280 Dust Characterization Level-1		M018 Total Coliform & E. Coli (MFT*)	M730 Methicillin-resistant Staph. aureus (MRSA)
M281 Dust Characterization Level-2		M114 Total Coliform & E. Coli Enumeration (ColiAlert MPN**)	M031 Rapid-growing non-TB Mycobacteria Detection & Enumeration
M005 Viable Fungi-Air Samples (Genus ID & Count)		M019 Fecal Coliform (MFT*)	M014 Endotoxin Analysis
M006 Viable Fungi-Air Samples (Includes Penicillium, Aspergillus, Cladosporium, Stachybotrys Species ID & Count)		M020 Fecal Streptococcus (MFT*)	M044 Group Allergen (Cat, Dog, Cockroach, Dust Mite)
M007 Culturable Fungi-Surface Samples (Genus ID & Count)		M029 Enterococci (MFT*)	M095 Bacteroides
M008 Culturable Fungi-Surface Samples (Includes Penicillium, Aspergillus, Cladosporium, Stachybotrys Species ID & Count)		M129 Enterococci (Enterolert PIA***)	Other - See Analytical Price Guide for Test Code
M009 Bacteria Culture Gram Stain & Count		M180 Real Time qPCR-ERMI 38 Panel	Legionella Analysis Please use EMSL Legionella COC
M010 Bacteria Count & ID - 3 Most Prominent		M025 Sewage Screen - Water (MFT*)	
M011 Bacteria Count & ID - 5 Most Prominent			

*MFT = Membrane Filtration Technique
 **MPN = Most Probable Number
 ***PIA = Presence/Absence

Sample #	Sample Location/Description	Sample Type (Matrix)	Potable / Non-Potable (Only for Water)	Test Code	Volume/Area	Date / Time Collected	Temperature (Lab Use Only)
Example: Sample 1	Kitchen	Water	Potable	M017	1,000 ml	1/1/2021 3:30pm	
5603532	Cafeteria	Air		M001	10 L/M	2/16/24 6:36 AM	
5603840	Lobby Door 3	Air		M001	10 L/M	2/16/24 6:42 AM	
5603406	Library	Air		M001	10 L/M	2/16/24 6:49 AM	
5603472	Hallway by 319	Air		M001	10 L/M	2/16/24 6:57 AM	
5603909	Band Room	Air		M001	10 L/M	2/16/24 7:13 AM	
5603929	Auditorium	Air		M001	10 L/M	2/16/24 7:23 AM	

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Method of Shipment:	Sample Condition Upon Receipt:
Relinquished by: Christopher Tsioles	Received by: <i>Rosemary Nicholson</i>
Date/Time: 2/16/24	Date/Time: 2-19-24 2:25p
Relinquished by:	Received by:
Date/Time:	Date/Time:

Controlled Document - COC-34 Micro R13 03/02/2021 AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.



EMSL Analytical, Inc.

5221 Militia Hill Road Plymouth Meeting, PA 19462
Tel/Fax: (610) 828-3102 / (610) 828-3122
<http://www.EMSL.com> / plymouthmeetinglab@emsl.com

EMSL Order: 182400698
Customer ID: ENVA55
Customer PO:
Project ID:

Attention: Christopher Tsioles
Environmental Abatement Associates, Inc.
239 Schuyler avenue suite 125B
KINGSTON, PA 18704

Phone: (570) 283-0500
Fax: (570) 283-0577
Collected Date: 02/16/2024
Received Date: 02/19/2024
Analyzed Date: 02/20/2024

Project: 24-7.1 WWV HIGH SCHOOL

Test Report: Allergenco-D™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	182400698-0001			182400698-0002			182400698-0003		
Client Sample ID:	5603532			5603840			5603406		
Volume (L):	10			10			10		
Sample Location:	CAFETERIA			LOBBY DOOR 3			LIBRARY		
Spore Types	Raw Count†	Count/m³	% of Total	Raw Count†	Count/m³	% of Total	Raw Count†	Count/m³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium++	-	-	-	1	300	33.3	-	-	-
Basidiospores	1	300	50	2	600	66.7	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	1	300	50	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	2	600	100	3	900	100	-	None Detected	-
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	317	-	-	317	-	-	317	-
Analyt. Sensitivity 300x	-	98*	-	-	98*	-	-	98*	-
Skin Fragments (1-4)	-	1	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.
† Due to method stopping rules, extrapolated raw counts are reported in parenthesis.

Kevin Ream, Laboratory Manager
or other Approved Signatory

No discernable field blank was submitted with this group of samples.

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Samples analyzed by EMSL Analytical, Inc. Plymouth Meeting, PA AIHA LAP, LLC-EMLAP Accredited #178659

Initial report from: 02/21/2024 09:20 AM

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



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Project: 24-7.1 WWV HIGH SCHOOL

Test Report: Allergenco-D™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	182400698-0004			182400698-0005			182400698-0006		
Client Sample ID:	5603472			5603909			5603929		
Volume (L):	10			10			10		
Sample Location:	HALLWAY BY 319			BAND ROOM			AUDITORIUM		
Spore Types	Raw Count†	Count/m³	% of Total	Raw Count†	Count/m³	% of Total	Raw Count†	Count/m³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium++	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	1	300	50	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	1	300	50	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	-	None Detected	-	2	600	100	-	None Detected	-
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	317	-	-	317	-	-	317	-
Analyt. Sensitivity 300x	-	98*	-	-	98*	-	-	98*	-
Skin Fragments (1-4)	-	1	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.
† Due to method stopping rules, extrapolated raw counts are reported in parenthesis.

Kevin Ream, Laboratory Manager
or other Approved Signatory

No discernable field blank was submitted with this group of samples.

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Samples analyzed by EMSL Analytical, Inc. Plymouth Meeting, PA AIHA LAP, LLC-EMLAP Accredited #178659

Initial report from: 02/21/2024 09:20 AM

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Test Report: Allergenco-D™ Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	182400698-0007				
Client Sample ID:	5603789				
Volume (L):	10				
Sample Location:	FRONT DOOR (BASELINE)				
Spore Types	Raw Count†	Count/m³	% of Total		
Alternaria (Ulocladium)	-	-	-		
Ascospores	2	600	33.3		
Aspergillus/Penicillium++	-	-	-		
Basidiospores	1	300	16.7		
Bipolaris++	-	-	-		
Chaetomium++	-	-	-		
Cladosporium	1	300	16.7		
Curvularia	-	-	-		
Epicoccum	-	-	-		
Fusarium++	-	-	-		
Ganoderma	-	-	-		
Myxomycetes++	-	-	-		
Pithomyces++	-	-	-		
Rust	-	-	-		
Scopulariopsis/Microascus	-	-	-		
Stachybotrys/Memnoniella	-	-	-		
Unidentifiable Spores	2	600	33.3		
Zygomycetes	-	-	-		
Total Fungi	6	1800	100		
Hyphal Fragment	-	-	-		
Insect Fragment	-	-	-		
Pollen	-	-	-		
Analyt. Sensitivity 600x	-	317	-		
Analyt. Sensitivity 300x	-	98*	-		
Skin Fragments (1-4)	-	1	-		
Fibrous Particulate (1-4)	-	1	-		
Background (1-5)	-	1	-		

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.
† Due to method stopping rules, extrapolated raw counts are reported in parenthesis.

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Samples analyzed by EMSL Analytical, Inc. Plymouth Meeting, PA AIHA LAP, LLC-EMLAP Accredited #178659

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Accreditations



AIHA Laboratory Accreditation Programs, LLC

acknowledges that

EMSL Analytical, Inc.

5221 Militia Rd., Plymouth Meeting, PA 19462

Laboratory ID: LAP-178659

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

LABORATORY ACCREDITATION PROGRAMS

<input checked="" type="checkbox"/>	INDUSTRIAL HYGIENE	Accreditation Expires: September 01, 2023
<input type="checkbox"/>	ENVIRONMENTAL LEAD	Accreditation Expires:
<input checked="" type="checkbox"/>	ENVIRONMENTAL MICROBIOLOGY	Accreditation Expires: September 01, 2023
<input type="checkbox"/>	FOOD	Accreditation Expires:
<input type="checkbox"/>	UNIQUE SCOPES	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Cheryl O Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC



AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

EMSL Analytical, Inc.

5221 Militia Rd., Plymouth Meeting, PA 19462

Laboratory ID: LAP-178659

Issue Date: 08/31/2021

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 09/01/2019

EMLAP Scope Category	Field of Testing (FOT)	Component, parameter or characteristic tested	Method	Method Description <i>(for internal methods only)</i>
Fungal	Air - Direct Examination	Spore Trap	MICRO-SOP-201	Standard Operating Procedure for the Analysis of Airborne Fungal Spores, Hyphal Fragments, Pollen, Insect Fragments, Skin Fragments and Fibrous Particulate by Optical Microscopy of Spore Trap Samples
Fungal	Bulk - Direct Examination	Bulks (liquid or solid)	MICRO-SOP-200	Standard Operating Procedure for the Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, Pollen, Insect Fragments, and Fibrous Particulate from Surface Samples
Fungal	Surface - Direct Examination	Swab or Tape Lift	MICRO-SOP-200	Standard Operating Procedure for the Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, Pollen, Insect Fragments, and Fibrous Particulate from Surface Samples

A complete listing of currently accredited EMLAP laboratories is available on the AIHA LAP, LLC website at: <http://www.aihaaccreditedlabs.org>