EHC ASSOCIATES
ENVIRONMENTAL CONSULTANTS & ABATEMENT CONTRACTORS

September 16, 2021 *PA HIC # 195*

Schuylkill Valley School District
929 Lake Shore Drive
Leesport, PA 19533

Attn: Casey Blankenbiller

Re: Spore Trap Air Sampling Services
High School Room C-7
EHC Project No.: 210141-003.1

Dear Mr. Blankenbiller:

Please review the attached laboratory analysis report regarding the spore trap air sampling performed at the above-referenced property on September 15, 2021. Air samples were collected from the following locations:

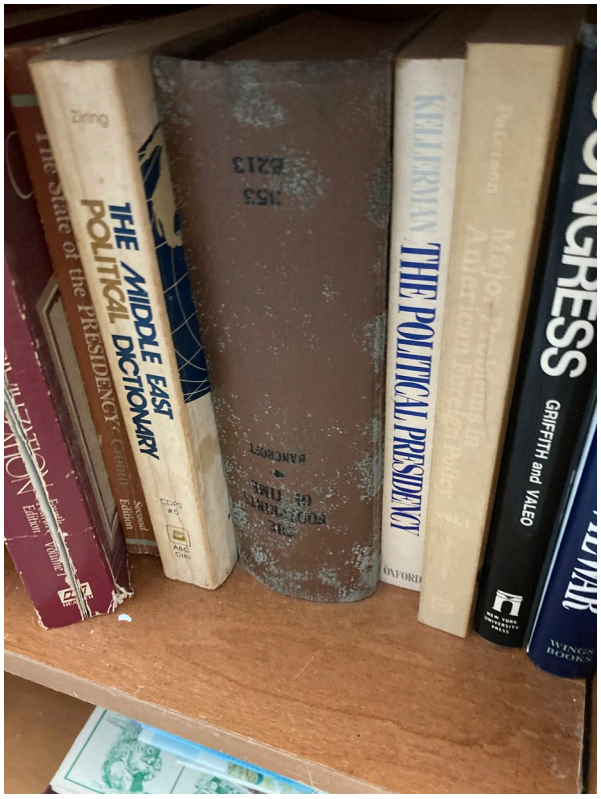
Sample 01 – Air - Room C-7 (Middle of Room)
Sample 02 – Air - Outside
Sample 03 – Swab – Green Textbooks
Sample 04 – Swab – Floor at Bookshelf

At the current time, there are no established “safe” levels of mold spores in regard to indoor mold spore levels. However, the general consensus among experts in the industry is that interior spore levels should be generally equal to the levels found outside of a home or building.

Laboratory analysis results indicate that elevated levels of Aspergillus/Penicillium were present in the air sample (Sample 01) collected from Room C-7. The swab sample collected from the green textbooks (Sample 03), that was located on the shelf near the windows, had a spore estimate of ‘Very Heavy’, 10,000+ spores present. The swab sample collected from the floor at the bookshelf (Sample 04) had a spore estimate of ‘Rare’, which is a low amount of spores present.

The federal EPA has developed the ERMI (Environmental Relative Moldiness Index) based on a study of over 700 homes. Aspergillus/Penicillium is considered a common allergen.

At the time of inspection, mold growth was observed on multiple surfaces throughout the classroom. Most notably the books on the bookshelf, and the red, rolling desk chair that tested high for mold during the last sampling event.



Remediation should be performed within a negative pressure containment system to keep mold spores from being distributed throughout the home. If not, there is a high chance of dispersing mold spores and causing issues in other locations of the building. We also recommend that remediation be performed by properly trained individuals using proper PPE because individuals can have adverse reactions to specific mold spores in light or elevated concentrations.

Please contact my office with questions or concerns, or if you would like a proposal for remediation services.

Sincerely,

Mark Andrechik
Inspector

Encl's.: Laboratory Analysis Report
Invoice 210141-003.1

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EMAIL: OFFICE@EHCASSOCIATES.COM ◊ WWW.EHCASSOCIATES.COM

HAYES MICROBIAL CONSULTING

#21035582

Analysis Report prepared for

EHC Associates, Inc.

2502 Horseshoe Rd
Lancaster, PA 17601

Phone: **(717) 656-3008**

210141.003.1
SVHS - 929 Lake Shore Dr.

Collected: **September 15, 2021**
Received: **September 16, 2021**
Reported: **September 16, 2021**

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 4 samples by FedEx in good condition for this project on September 16th, 2021.

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC..

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.

Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC.

EPA Laboratory ID: VA01419

Lab ID: #188863

DPH License: #PH-0198

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Spore Trap +
SOP - #HMC101

Sample Number	1	32839555		2	32839553	
Sample Name	**Room C-7 (Middle of Room)**			**Outside**		
Sample Volume	75.00 liter			75.00 liter		
Reporting Limit	13 spores/m³			13 spores/m³		
Background	2			2		
Fragments	ND			ND		
	Pollen	**Dander**	**Fiber**	**Pollen**	**Dander**	**Fiber**
	ND	1600/m³	13/m³	27/m³	13/m³	ND
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria						
Ascospores	1	13	<1%	96	1280	32.8%
Aspergillus|Penicillium	320	4267	95.0%	3	40	1.0%
Basidiospores				28	373	9.6%
Bipolaris|Drechslera						
Chaetomium						
Cladosporium	16	213	4.7%	160	2133	54.6%
Curvularia				2	27	<1%
Epicoccum						
Fusarium						
Memnoniella						
Myxomycetes						
Pithomyces						
Stachybotrys						
Stemphylium						
Torula				1	13	<1%
Ulocladium						
Cercospora				3	40	1.0%
Total	337	4493	100%	293	3906	100%

Water Damage Indicator | Common Allergen | Slightly Higher than Baseline | Significantly Higher than Baseline | Ratio Abnormality

Collected: **Sep 15, 2021** Received: **Sep 16, 2021** Reported: **Sep 16, 2021** Revision: **2**

Project Analyst: Ramesh Poluri, PhD P. Ramesh Date: **09 - 16 - 2021**

Reviewed By: Steve Hayes, BSMT Stephen N. Hayes Date: **09 - 16 - 2021**

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3005 East Boundary Terrace, Suite F. Midlothian, VA. 23112 (804) 562-3435 contact@hayesmicrobial.com

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Direct Analysis +
SOP - HMC#102

#3	Swab (2.00 in2)	Organism	Spore Estimate	Mycelial Estimate	Raw Count	% Total
	Swab - Green Textbooks	Aspergillus|Penicillium	Very Heavy	Many	132000	100%

Reporting Limit: 1 spore/in2

#4	Swab (2.00 in2)	Organism	Spore Estimate	Mycelial Estimate	Raw Count	% Total
	Swab - Floor at Bookshelf	Aspergillus|Penicillium	Rare	ND	5	100%

Reporting Limit: 1 spore/in2

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Spore Trap Information

Reporting Limit	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.
Blanks	Results have not been corrected for field or laboratory blanks.
Background	The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of Aspergillus and Penicillium may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows: **NBD:** No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD) **1 :** <5% of field occluded. No spores will be uncountable. **2 :** 5-25% of field occluded. **3 :** 25-75% of field occluded. **4 :** 75-90% of field occluded. **5 :** >90% of field occluded. Suggested recollection of sample.
Fragments	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.
Control Comparisons	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.
Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality	**Blue:** These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem. **Green:** Although all molds are potential allergens, these are the most common allergens that may be found indoors. **Orange:** The spore count is slightly higher than the outside count and may or may not indicate a source of contamination. **Red:** The spore count is significantly higher than the baseline count and probably indicates a source of contamination. **Violet:** The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.
Color Coding	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.

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Direct Analysis Information

Spore Estimate		Percentages
ND	None Detected	0%
Rare	Less than 10 spores	< 1%
Light	10 - 99 spores	1-10%
Moderate	100 - 999 spores	11-25%
Heavy	1000 - 9999 spores	26-50%
Very Heavy	10000 or greater spores	51-100%

Mycelial Estimate	
ND	None Detected No active growth at site.
Trace	Very small amount of Mycelium Probably no active growth at site.
Few	Some Mycelium Possible active growth at site.
Many	Large amount of Mycelium Probable active growth at site.

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Organism Descriptions

Ascospores

Habitat: A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report.

Effects: Health affects are poorly studied, but many are likely to be allergenic.

Aspergillus|Penicillium

Habitat: The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates.

Effects: This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and many are opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions.

Basidiospores

Habitat: A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet conditions they can cause structural damage to buildings.

Effects: Common allergens and are also associated with hypersensitivity pneumonitis.

Cercospora

Habitat: Found on wood and decaying plant matter.

Effects: Health effects are poorly studied.

Cladosporium

Habitat: One of the most common genera worldwide. Found in soil and plant debris and on the leaf surfaces of living plants. The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity. The outdoor numbers often spike in the late afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts.

Effects: A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.

Curvularia

Habitat: They exist in soil and plant debris, and are plant pathogens.

Effects: They are allergenic and a common cause of allergic fungal sinusitis. An occasional cause of human infection, including keratitis, sinusitis, onychomycosis, mycetoma, pneumonia, endocarditis and desseminated infection, primarily in the immunocompromised.

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Torula

Habitat: Found in soil and on wood and grasses. Occasionally found growing indoors on cellulose containing materials.

Effects: A known allergen. No known cases of human infection.

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Company: EHC Associates, Inc.
Address: 2502 Horseshoe Rd.
Lancaster, PA 17601

P SHIP: FEDEX - PAK SO
DATE: 09-16-2021
8170 8015 3230

MOLD
21035582

Job Number: 210141-003.1	Job Name: SVHS - 929 Lake Shore Dr.
Collector: Andrchik	
Date Collected: 9/15/21	

Mobile: Email:
Note:

Analysis Type		Analysis Description	Turnaround	Accepted Media Types
Spore Trap	S	Identification & Enumeration of Fungal Spores	24 Hour	Air Cassettes, Impact Slides
	S+	Spore Trap Analysis with Dander, Fiber, and Pollen counts	24 Hour	Air Cassettes, Impact Slides
Direct ID	D	ID & Semi-Quantative Enumeration of spores and mycelium	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
	D+	Direct Analysis with Fully Quantitative spore count	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
Culture	C1	Identification & Enumeration of Mold only	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C2	Identification & Enumeration of Bacteria only	4 Day	Air Plate, Agar Plate, Swab, Bulk
	C3	Identification & Enumeration of Mold and Bacteria	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C5	Coliform Screen for Sewage Bacteria	2 Day	Agar Plate, Swab, Bulk
Particle	TPA	Total Particulate Analysis, ID & Count (Does Not Include Mold)	24 Hour	Air Cassettes, Impact Slides, Bio-Tape

#	Number	Sample	Analysis	Volume	Notes
1	3283 9555	Room L-7 (middle of Room)	S+	75	
2	3283 9553	Outside	↓	↓	
3		Green Textbooks	D+	2 in²	
4		Floor @ bookshelf	D+	2 in²	
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Released by: Date: 9/15 Received By: Date: 9.16.21