EHC
ASSOCIATES
ENVIRONMENTAL CONSULTANTS & ABATEMENT CONTRACTORS

August 5, 2021

PA HIC # 195

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

Attn: Casey Blankenbiller

Re: Spore Trap Air & Swab Sampling Services
Rooms D-31 & C-6
EHC Project No.: 210141-002

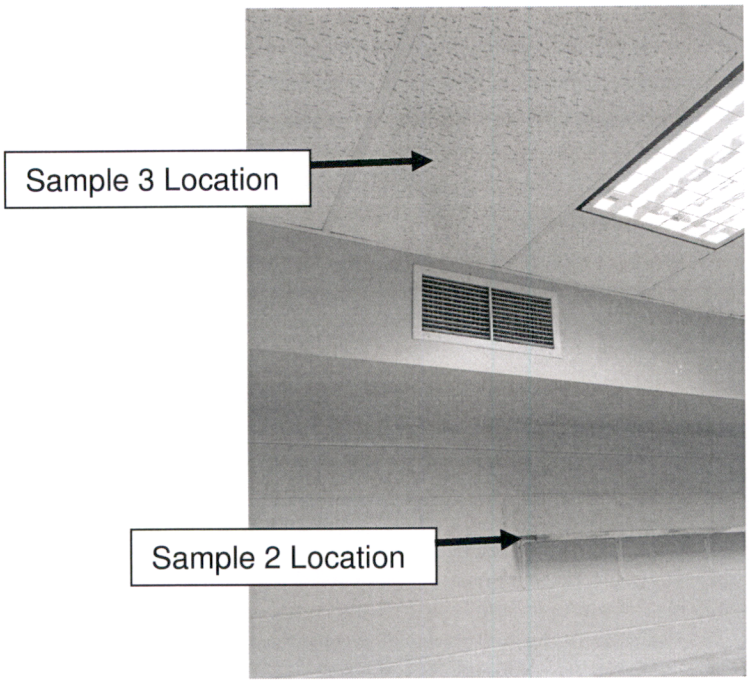
Dear Mr. Blankenbiller:

Please review the attached laboratory analysis report in regard to the spore trap air sampling performed at the above-referenced property on August 3, 2021. Air samples were collected from the following locations:

Sample 01 – Air – D-31 Center of Room
Sample 02 – Swab – D-31 Elevated Book Shelf
Sample 03 – Swab - D-31 Ceiling Tile Rear of Room
Sample 04 – Air – C-6 Center of Room
Sample 05 – Outside

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 of the two swab samples (Samples 2 & 3) indicate that elevated levels of Cladosporium were present on the elevated book shelf and ceiling tiles in the back of the room (near the vent). Please refer to the below picture for sample locations. The air sample analysis shows at the time of sampling, the spore counts are currently within acceptable ranges (indoor compared to outdoor).



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

At the time of inspection, mold growth was observed on the elevated wooden shelf (Sample 2), and on the ceiling tiles near the vents (Sample 3). There were multiple ceiling tiles in the room that showed suspect mold growth.

At this time, since the air sample results did not reveal elevated airborne mold spores, we recommend removal and replacement of the mold impacted ceiling tiles (approximately 4-5 tiles), and thorough cleaning of the vent covers. We also recommend the removal of the mold containing wooden shelf, and either replaced, or treated with an anti-microbial and polyurethane sealant.

Please contact my office with questions or concerns.

Sincerely,

Mark Andrechik
Inspector

Encl's.: Laboratory Analysis Report
Invoice 210141-002

2502 HORSESHOE ROAD, LANCASTER, PA 17601 ◊ 717-656-3008 ◊ FAX: 717-656-7134
EMAIL: OFFICE@EHCASSOCIATES.COM ◊ WWW.EHCASSOCIATES.COM

HAYES
MICROBIAL CONSULTING

#21028107

Analysis Report prepared for

EHC Associates, Inc.

2502 Horseshoe Rd
Lancaster, PA 17601

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

210141-002
SVSD - High School

Collected: **August 3, 2021**
Received: **August 4, 2021**
Reported: **August 4, 2021**

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 5 samples by FedEx in good condition for this project on August 4th, 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

Mark Andrechik
EHC Associates, Inc.
2502 Horseshoe Rd
Lancaster, PA 17601
(717) 656-3008

210141-002
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Spore Trap +
SOP - #HMC101

Sample Number	1	31887095		4	31887116		5	31887069	
Sample Name	D-31 - Center of Room			L-6 Center of Room			Outside		
Sample Volume	75.00 liter			75.00 liter			75.00 liter		
Reporting Limit	13 spores/m³			13 spores/m³			13 spores/m³		
Background	1			2			3		
Fragments	ND			ND			ND		
	Pollen	Dander	Fiber	Pollen	Dander	Fiber	Pollen	Dander	Fiber
	ND	40/m³	13/m³	13/m³	1120/m³	120/m³	27/m³	67/m³	13/m³
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria									
Ascospores				6	80	33.3%	130	1733	29.8%
Aspergillus|Penicillium	2	27	100.0%	4	53	22.2%	170	2267	39.0%
Basidiospores				2	27	11.1%	84	1120	19.3%
Bipolaris|Drechslera									
Chaetomium									
Cladosporium				5	67	27.8%	8	107	1.8%
Curvularia									
Epicoccum							1	13	<1%
Fusarium									
Memnoniella									
Myxomycetes				1	13	5.6%	1	13	<1%
Pithomyces									
Stachybotrys									
Stemphylium									
Torula									
Ulocladium									
Polythrincium							42	560	9.6%
Total	2	27	100%	18	240	100%	436	5813	100%

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

Collected: **Aug 3, 2021** Received: **Aug 4, 2021** Reported: **Aug 4, 2021**

Project Analyst: Connor Gailliot, BS — Date: **08 - 04 - 2021**

Reviewed By: Steve Hayes, BSMT — Date: **08 - 04 - 2021**

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

Mark Andrechik
EHC Associates, Inc.
2502 Horseshoe Rd
Lancaster, PA 17601
(717) 656-3008

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Direct Analysis +
SOP - HMC#102

#2	Swab (2.00 in2)	Organism	Spore Estimate	Mycelial Estimate	Raw Count	% Total
	Swab - D-31 - Elevated Wooden Shelf	Cladosporium	Moderate	Few	130	100%

Reporting Limit: 1 spore/in2

#3	Swab (2.00 in2)	Organism	Spore Estimate	Mycelial Estimate	Raw Count	% Total
	Swab - D-31 - Ceiling Tile Rear of Room	Cladosporium	Heavy	Many	1600	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.

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.

Epicoccum

Habitat: It is found in soil and plant litter and is a plant pathogen. It can grow indoors on a variety of substrates, including paper and textiles and is commonly found on wet drywall.

Effects: It is a common allergen. No cases of infection have been reported in humans.

Myxomycetes

Habitat: Found on decaying plant material and as a plant pathogen.

Effects: Some allergenic properties reported, but generally pose no health concerns to humans.

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Polythrincium

Habitat: Found in soil and occasionally on plants.

Effects: No known health effects. Allergenic properties are poorly studied.

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

N

SHIP: FEDEX - PAK SO
DATE: 08-04-2021

8162 2508 5396

MOLD

21028107

Job Number: 21041-002	Job Name: SVSD - High School
Collector: Andrechik	
Date Collected: 8/3/21	

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	7188 7095	D-31 - Center of Room	S+	75L	
2		D-31 - Elevated Wooden Shelf	D+	2in²	
3		D-31 - Ceiling Tile - Rear of Room	D+	2in²	
4	3188 7116	L-6 - Center of Room	S+	75L	
5	3188 7069	outside	S+	75L	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Released by:	Date: 8/3/21	Received By: CMP	Date: 8/4/21