



HILLMANN
CONSULTING

May 2, 2019

Ms. Rebecca Lopez
East Stroudsburg Area School District
50 Vine Street
East Stroudsburg, Pennsylvania 18301

RE: Microbial Investigation – Air Quality Sampling
Smithfield Elementary School
245 River Road
East Stroudsburg, Pennsylvania 18301
Hillmann Project Number: PH-0755

Dear Ms. Lopez:

Thank you for retaining Hillmann Consulting, LLC (Hillmann) to address your environmental concerns. On April 17, 2019, Mr. John Murphy, CMI, conducted a Microbial Investigation and Air Quality Sampling of the Café, Art Room, and Classrooms 108, 103, 210, 207, and 201 located within Smithfield Elementary School. This investigation is part of a biannual sampling plan in order to document air quality within Smithfield Elementary. The parameters for the investigation included a visual inspection and the collection of one airborne fungal spore sample within the subject spaces listed above.

Hillmann selected the sampling parameters based on consultations with the client (East Stroudsburg Area School District), the laboratory performing the analysis, and our in-house experts. The inspection was a general screening to randomly assess indoor airborne spore concentrations within the subject spaces.

Airborne fungal spores were collected by drawing air through an Air-O-Cell® cassette utilizing a Zefon BioPump. Samples were collected for a time period of five (5) minutes at a calibrated flow rate of 15 L/min yielding a total sample volume of 75 liters. These cassettes were then sent to an AIHA EMLAP accredited laboratory where fungal spores were identified by genera and concentration. Fungal spores are present in normal indoor settings. If found in excess amounts, these spores can produce allergy-like symptoms as well as asthmatic reactions in those who are sensitive to them. If the indoor samples are found to have a greater diversity of genera, and/or higher amounts of fungal spores than outdoor samples, it can be presumed that the subject space may be facilitating microbial growth.

OBSERVATIONS AND FINDINGS

Hillmann was met on site by facility personnel, who escorted Hillmann through the subject spaces to conduct airborne microbial quality assurance sampling.

The Smithfield Elementary School is primarily composed of a combination of masonry block units and wallboard walls, carpet and vinyl tile flooring, and drop ceiling tiles. Hillmann did not observe any water staining or visible microbial growth on accessible surfaces.

Average temperature and relative humidity readings were 70.1°F and 34.1% respectively.

Seven (7) airborne fungal spore sample were collected from the Café, Art Room, and Classrooms 108, 103, 210, 207, and 201 within Smithfield Elementary School. Laboratory analysis showed total indoor fungal spore concentrations and individual fungal genera were lower and/or comparable to the outdoor reference levels.

In the absence of health-based federal standards, Hillmann has adopted industry standard practice and recommended practices by the ACGIH to compare indoor/outdoor fungal concentrations. Samples are deemed “comparable” or “acceptable” when the following criteria are met:

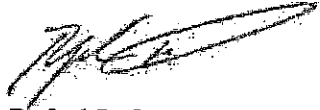
- Overall indoor/outdoor fungal genera identified are similar on the day of sampling. Raw spore counts less than ten (10) do not represent a statistically significant number. Therefore, the presence of one (1) spore of certain indicator genera (i.e. *Stachybotrys*) will not be grounds for failure.
- Common outdoor genera identified indoors are similar to or less than outdoor concentrations.
- Common water intrusion indicator genera including but not limited to: *Penicillium/Aspergillus group*, *Chaetomium*, etc. are similar to outdoor concentrations and/or within one order of magnitude (10 times difference). Exceptions will be made depending on conditions, fungal genera identified, and outlying factors.
- Hillmann also recommends that common water intrusion indicator genera be below a level of 1,000 CFU/m³ of air. Exceptions will be made depending on conditions, fungal genera identified, and outlying factors.”

CONCLUSIONS & RECOMMENDATIONS

Based upon the findings and laboratory results, the subject spaces do not appear to be facilitating microbial growth at this time.

If you have any questions, or need additional information, please feel free to contact our office at (856) 581-9055.

Regards,
Hillmann Consulting, LLC



Rafael L. Torres, III
Director of Operations
Philadelphia Area Regional Office



John Murphy
Industrial Hygienist, CMI

File: PH-0755
Enclosed: Laboratory Results

Date of Sampling: 04/17/2019 Job #: PH-0755
 Date of Sample Receipt: 04/19/2019 Order#: 0419379
 Client: EAST STROUDSBURG AREA SCHOOL #Received: 9
 DISTRICT
 50 VINE STREET
 EAST STROUDSBURG, PA 18301



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 P.O. BOX 1597
 UNION, NEW JERSEY 07083-1597
 PHONE: (908) 688-7800 FAX: (908) 686-2636
 www.hillmannconsulting.com

Attn:
 Collection Site: EAST STROUDSBURG/ PA/ SMITHFIELD

Field Technician: John Murphy
 Date of Analysis: 04/19/2019
 Date of Issue: 04/22/2019
 Sampling Method: Air-O-Cell

SPORE TRAP REPORT: Method (Fungal Spore SOP)

Location:	Cafe			Room 108			Room 103		
Lab ID#:	F48173			F48174			F48175		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Basidiospores	3	180	50%	2	120	66%			
Cladosporium	2	120	33%	1	61	34%			
Penicillium/Aspergillus	1	61	17%						
Total Spores/m3	360			180			No Spores Detected		
Analytical Sensitivity ***	61			61			61		

* Background debris may affect analysis of sample causing results to be reported lower than actually present in the air.
 Background debris are expressed qualitatively: heavy > medium > light.
 ** Percentages may not equal 100% due to rounding.
 *** Analytical sensitivity is based on 1000X magnification and 15% of trace analyzed.
 Samples arrived in acceptable condition unless otherwise noted.
 Uncertainty of measurement available upon request.
 This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by Hillmann Consulting, LLC.

Signature:

Angelo Tango Laboratory Manager #Analyzed: 9



Date of Sampling: 04/17/2019 Job #: PH-0755
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Attn:
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Field Technician: John Murphy
 Date of Analysis: 04/19/2019
 Date of Issue: 04/22/2019
 Sampling Method: Air-O-Cell

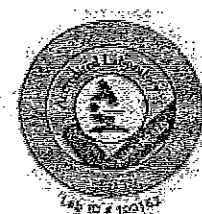
SPORE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Art Room			Room 210			Room 207		
Lab ID#:	F48176			F48177			F48178		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Ascospores							1	61	13%
Basidiospores	2	120	100%				2	120	25%
Chaetomium							1	61	13%
Hyphal Fragments							1	61	13%
Myxo./Periconia/Rusts/Smuts							1	61	13%
Penicillium/Aspergillus							2	120	25%
Total Spores/m3	120			No Spores Detected			480		
Analytical Sensitivity ***	61			61			61		

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Angelo Tango Laboratory Manager #Analyzed: 9



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 Field Technician: John Murphy
 Date of Analysis: 04/19/2019
 Date of Issue: 04/22/2019
 Sampling Method: Air-O-Cell

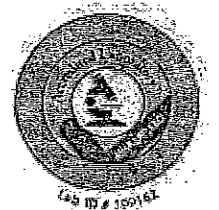
SCOPE TRAP REPORT: Method (Fungal Spore SPT)

Location:	Room 201			Outside			Outside		
Lab ID#:	F48179			F48180			F48181		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Ascospores				1	61	11%	1	61	10%
Basidiospores				8	490	89%	9	550	90%
Penicillium/Aspergillus	1	61	100%						
Total Spores/m3	61			550			610		
Analytical Sensitivity ***	61			61			61		

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Signature:

Angelo Tango Laboratory Manager #Analyzed: 9





May 16, 2019

Ms. Rebecca Lopez
East Stroudsburg Area School District
50 Vine Street
East Stroudsburg, Pennsylvania 18301

RE: Microbial Investigation – Supplemental Air Quality Sampling
Smithfield Elementary School
245 River Road
East Stroudsburg, Pennsylvania 18301
Hillmann Project Number: PH-0755

Dear Ms. Lopez:

Thank you for retaining Hillmann Consulting, LLC (Hillmann) to address your environmental concerns. On May 13, 2019, Mr. John Murphy, CMI, conducted a Microbial Investigation and Supplemental Air Quality Sampling of Classrooms 116, 118, and 106 located within the Smithfield Elementary School. This investigation is part of a biannual sampling plan in order to document air quality within Smithfield Elementary. This sampling event supplements the investigation and sampling event conducted by Hillmann on April 17, 2019. The parameters for the investigation included a visual inspection and the collection of three airborne fungal spore samples within the subject spaces listed above.

Hillmann selected the sampling parameters based on consultations with the client (East Stroudsburg Area School District), the laboratory performing the analysis, and our in-house experts. The inspection was a general screening to assess indoor airborne spore concentrations within the subject spaces.

Airborne fungal spores were collected by drawing air through an Air-O-Cell® cassette utilizing a Zefon BioPump. Samples were collected for a time period of five (5) minutes at a calibrated flow rate of 15 L/min yielding a total sample volume of 75 liters. These cassettes were then sent to an AIHA EMLAP accredited laboratory where fungal spores were identified by genera and concentration. Fungal spores are present in normal indoor settings. If found in excess amounts, these spores can produce allergy-like symptoms as well as asthmatic reactions in those who are sensitive to them. If the indoor samples are found to have a greater diversity of genera, and/or higher amounts of fungal spores than outdoor samples, it can be presumed that the subject space may be facilitating microbial growth.

OBSERVATIONS AND FINDINGS

Hillmann was met on site by facility personnel, who escorted Hillmann through the subject spaces to conduct airborne microbial quality assurance sampling.

The Smithfield Elementary School is primarily composed of a combination of masonry block units and wallboard walls, carpet and vinyl tile flooring, and drop ceiling tiles. Hillmann did not observe any water staining or visible microbial growth on accessible surfaces.

Average temperature and relative humidity readings were 70.2°F and 37.8% respectively.

Three (3) airborne fungal spore samples were collected from Classrooms 116, 118 and 106 within the Smithfield Elementary School. Laboratory analysis showed total indoor fungal spore concentrations and individual fungal genera were lower and/or comparable to the outdoor reference levels.

In the absence of health-based federal standards, Hillmann has adopted industry standard practice and recommended practices by the ACGIH to compare indoor/outdoor fungal concentrations. Samples are deemed “comparable” or “acceptable” when the following criteria are met:

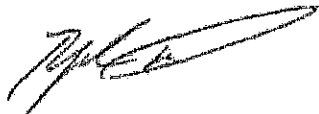
- Overall indoor/outdoor fungal genera identified are similar on the day of sampling. Raw spore counts less than ten (10) do not represent a statistically significant number. Therefore, the presence of one (1) spore of certain indicator genera (i.e. *Stachybotrys*) will not be grounds for failure.
- Common outdoor genera identified indoors are similar to or less than outdoor concentrations.
- Common water intrusion indicator genera including but not limited to: *Penicillium/Aspergillus* group, *Chaetomium*, etc. are similar to outdoor concentrations and/or within one order of magnitude (10 times difference). Exceptions will be made depending on conditions, fungal genera identified, and outlying factors.
- Hillmann also recommends that common water intrusion indicator genera be below a level of 1,000 CFU/m³ of air. Exceptions will be made depending on conditions, fungal genera identified, and outlying factors.”

CONCLUSIONS & RECOMMENDATIONS

Based upon the findings and laboratory results, the subject spaces do not appear to be facilitating microbial growth at this time.

If you have any questions, or need additional information, please feel free to contact our office at (856) 581-9055.

Regards,
Hillmann Consulting, LLC



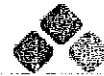
Rafael L. Torres, III
Director of Operations
Philadelphia Area Regional Office



John Murphy
Industrial Hygienist, CMI

File: PH-0755
Enclosed: Laboratory Results

Date of Sampling: 05/13/2019 Job #: PH-0755
 Date of Sample Receipt: 05/14/2019 Order#: 0519333
 Client: EAST STROUDSBURG AREA SCHOOL DISTRICT
 50 VINE STREET
 EAST STROUDSBURG, PA 18301 #Received: 5



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Attn:
 Collection Site: SMITHFIELD ELEMENTRY SCHOOL/ EAST STROUDSBURG/ PA
 Field Technician: John Murphy
 Date of Analysis: 05/14/2019
 Date of Issue: 05/14/2019
 Sampling Method: Air-O-Cell

SCOPE TRAP REPORT: Method (Fungal Spore SOP)

Location:	Classroom 116			Classroom 118			Classroom 106		
Lab ID#:	F48377			F48378			F48379		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Basidiospores	10	640	83%	4	260	80%	1	64	100%
Myxo./Periconia/Rusts/Smuts	1	64	8%	1	64	20%			
Penicillium/Aspergillus	1	64	8%						
Total Spores/m3	770			320			64		
Analytical Sensitivity ***	64			64			64		

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 Samples arrived in acceptable condition unless otherwise noted.
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Signature: 
 Dylan Jaycox, Laboratory Director #Analyzed: 5



Date of Sampling: 05/13/2019 Job #: PH-0755
 Date of Sample Receipt: 05/14/2019 Order#: 0519333
 Client: EAST STROUDSBURG AREA SCHOOL #Received: 5
 DISTRICT
 50 VINE STREET
 EAST STROUDSBURG, PA 18301



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Attn:
 Collection Site: SMITHFIELD ELEMENTRY SCHOOL/ EAST STROUDSBURG/ PA
 Field Technician: John Murphy
 Date of Analysis: 05/14/2019
 Date of Issue: 05/14/2019
 Sampling Method: Air-O-Cell

SPORE TRAP REPORT: Method (Fungal Spore SOP)

Location:	Outside			Outside					
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Lab ID#:	F48380			F48381					
Volume (Liters):	75			75					
Background Debris: *	Light			Light					
Ascospores	13	830	9%	3	190	1%			
Basidiospores	131	8,380	90%	198	12,700	98%			
Penicillium/Aspergillus	1	64	1%	2	130	1%			
Total Spores/m3	9,270			13,000					
Analytical Sensitivity ***	64			64					

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Signature: Dylan Jaycox
 Dylan Jaycox, Laboratory Director #Analyzed: 5

