



August 12, 2019

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

RE: Microbial Investigation – Air Quality Sampling
JT Lambert Intermediate School
2000 Milford Road
East Stroudsburg, Pennsylvania 18301
Hillmann Project Number: PH-0867

Dear Ms. Lopez:

Thank you for retaining Hillmann Consulting, LLC (Hillmann) to address your environmental concerns. On July 30, 2019, Alyson Albertson conducted a Microbial Investigation and Air Quality Sampling of the Library, Cafeteria, and Classrooms 104, 110, 113, 116, 125, 211, 218, 220, 224, 301, 308, and 318 located within the JT Lambert Intermediate School. This investigation is part of a biannual sampling plan in order to document air quality within the JT Lambert Intermediate School. 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 JT Lambert Intermediate School is primarily composed of a combination of masonry block units and wallboard walls, a combination of tile and carpet 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 74.6°F and 52.3% respectively.

Fourteen (14) airborne fungal spore samples were collected from the Library, Cafeteria and Classrooms 104, 110, 113, 116, 125, 211, 218, 220, 224, 301, 308, and 318 within the JT Lambert Intermediate 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.

Hillmann has no further recommendations 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



Alyson Albertson, LEED Green Associate
Environmental Specialist

File: PH-0867
Enclosed: Laboratory Results

Date of Sampling: 07/30/2019
Date of Sample Receipt: 07/31/2019
Client: EAST STROUDSBURG AREA SCHOOL DISTRICT
 50 VINE STREET
 EAST STROUDSBURG, PA 18301

Job #: PH-0867
Order#: 0819011
#Received: 16



HILLMANN CONSULTING, L.L.C.
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 PHONE: (908) 688-7800 FAX: (908) 686-2636
 www.hillmannconsulting.com

Attn:

Collection Site: JT LAMBERT/ 2000 MILFORD ROAD

Field Technician: Alyson Albertson
Date of Analysis: 08/01/2019
Date of Issue: 08/01/2019
Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Library			Cafeteria			Room 104		
Lab ID#:	F49085			F49086			F49087		
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	25%	1	61	100%	8	490	80%
Cladosporium	4	240	50%				2	120	20%
Myxo./Periconia/Rusts/Smuts	1	61	13%						
Total Spores/m3	480			61			610		
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: 16



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Attn:

Collection Site: JT LAMBERT/ 2000 MILFORD ROAD

Field Technician: Alyson Albertson
Date of Analysis: 08/01/2019
Date of Issue: 08/01/2019
Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Room 110			Room 125			Room 113		
Lab ID#:	F49088			F49089			F49090		
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	6%						
Basidiospores	16	980	89%	3	180	38%	1	61	100%
Cladosporium				2	120	25%			
Penicillium/Aspergillus				3	180	38%			
Pithomyces	1	61	6%						
Total Spores/m3	1,100			480			61		
Analytical Sensitivity ***	61			61			61		

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Attn:

Collection Site: JT LAMBERT/ 2000 MILFORD ROAD

Field Technician: Alyson Albertson
Date of Analysis: 08/01/2019
Date of Issue: 08/01/2019
Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Room 116			Room 211			Room 224		
Lab ID#:	F49091			F49092			F49093		
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	5%			
Basidiospores	9	550	100%	14	850	74%	17	1,000	85%
Cladosporium				1	61	5%			
Ganoderma				1	61	5%			
Myxo./Periconia/Rusts/Smuts							1	61	5%
Penicillium/Aspergillus				2	120	10%	2	120	10%
Total Spores/m3	550			1,200			1,200		
Analytical Sensitivity ***	61			61			61		

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Attn:

Collection Site: JT LAMBERT/ 2000 MILFORD ROAD

Field Technician: Alyson Albertson
Date of Analysis: 08/01/2019
Date of Issue: 08/01/2019
Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Room 220			Room 218			Room 318		
Lab ID#:	F49094			F49095			F49096		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Ascospores	2	120	8%	1	61	4%	1	61	6%
Basidiospores	17	1,000	68%	22	1,300	75%	16	980	89%
Cladosporium	3	180	12%	2	120	7%			
Ganoderma	1	61	4%						
Myxo./Periconia/Rusts/Smuts				1	61	4%			
Penicillium/Aspergillus	2	120	8%	2	120	7%	1	61	6%
Pithomyces				1	61	4%			
Total Spores/m3	1,500			1,700			1,100		
Analytical Sensitivity ***	61			61			61		

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Attn:

Collection Site: JT LAMBERT/ 2000 MILFORD ROAD

Field Technician: Alyson Albertson
Date of Analysis: 08/01/2019
Date of Issue: 08/01/2019
Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Room 308			Room 301			Outside		
Lab ID#:	F49097			F49098			F49099		
Volume (Liters):	75			75			75		
Background Debris: *	Light			Light			Light		
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Alternaria							12	730	3%
Ascospores	4	240	13%	5	310	10%	3	180	1%
Basidiospores	17	1,000	53%	29	1,800	58%	29	1,800	7%
Cercospora							1	61	0%
Cladosporium	3	180	9%	13	790	26%	318	19,400	75%
Coprinus	2	120	6%						
Curvularia							5	310	1%
Epicoccum							2	120	0%
Ganoderma							4	240	1%
Hyphal Fragments	1	61	3%	1	61	2%	13	790	3%
Myxo./Periconia/Rusts/Smuts	2	120	6%				5	310	1%
Nigrospora							1	61	0%
Penicillium/Aspergillus	3	180	9%	2	120	4%	1	61	0%
Pithomyces							29	1,800	7%
Tetraploa							1	61	0%
Total Spores/m3	1,900			3,100			25,900		
Analytical Sensitivity ***	61			61			61		

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Attn:

Collection Site: JT LAMBERT/ 2000 MILFORD ROAD

Field Technician: Alyson Albertson
Date of Analysis: 08/01/2019
Date of Issue: 08/01/2019
Sampling Method: Air-O-Cell

SPODE TRAP REPORT: Method (Fungal Spore SOD)

Location:	Outside								
Lab ID#:	F49100								
Volume (Liters):	75								
Background Debris: *	Light								
	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**	raw ct.	spores/m3	%**
Alternaria	11	670	3%						
Ascospores	7	430	2%						
Basidiospores	42	2,600	11%						
Bipolaris/Drechslera	1	61	0%						
Cladosporium	269	16,400	67%						
Coprinus	1	61	0%						
Curvularia	7	430	2%						
Epicoccum	4	240	1%						
Ganoderma	1	61	0%						
Hyphal Fragments	19	1,200	5%						
Myxo./Periconia/Rusts/Smuts	4	240	1%						
Penicillium/Aspergillus	2	120	0%						
Pithomyces	27	1,600	7%						
Tetraploa	1	61	0%						
Torula	1	61	0%						
Xylariaceae	3	180	1%						
Total Spores/m3	24,400								
Analytical Sensitivity ***	61								

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Angelo Tango
 Angelo Tango Laboratory Manager #Analyzed: 16



Fungal Spore Chain-of-Custody and Analysis Request Form

Date of Sampling: 7/30/19

Job #: PH-0867

Date of Sample Receipt: _____

Order #: 0819011

Client: East Stroudsburg Area School District

Location: J.T. Lambert - 2000 Milford Road

Field Hygienist: Alyson Albertson



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Sample ID Lab ID	Sample Type (Air, Bulk, Tape)	Air-Flow Time		Air-Flow Rate		Air Volume(L) or Area (in) ²	Sample Location Description	Turnaround Time						Comments
		Start	End	Start	End			3-6hr	8-12hr	24hr	48hr	72hr	5-7 day	
ESA-JTL-01 <u>F49085</u>	Air	1208	1213	15	15	75	Library					X		
ESA-JTL-02 <u>86</u>		1200	1205				Cafeteria					X		
ESA-JTL-03 <u>87</u>		1100	1105				Room 104					X		
ESA-JTL-04 <u>88</u>		1109	1114				Room 110					X		
ESA-JTL-05 <u>89</u>		1107	1112				Room 125					X		
ESA-JTL-06 <u>90</u>		1116	1121				Room 113					X		
ESA-JTL-07 <u>91</u>		1127	1132				Room 116					X		
ESA-JTL-08 <u>92</u>		1136	1141				Room 211					X		
ESA-JTL-09 <u>93</u>		1135	1140				Room 224					X		
ESA-JTL-10 <u>94</u>		1128	1133				Room 220					X		

Sampled By:		Transported By:		Received By:		Prepared By:		Analyzed By:	
Name: <u>Alyson Albertson</u>		Name: <u>Fed EX</u>		Name: <u>Cassandra Zamora</u>		Name: _____		Name: _____	
Signature: <u>[Signature]</u>		Signature: _____		Signature: <u>[Signature]</u>		Signature: _____		Signature: <u>[Signature]</u>	
Date: <u>7/30/19</u>		Date: _____		Date: <u>7/31/19 @ 09:00</u>		Date: _____		Date: <u>8/1/19</u>	

Fungal Spore Chain-of-Custody and Analysis Request Form

Date of Sampling: 7/30/19

Job #: PH-0867
Order #: 0819011

Date of Sample Receipt: _____

Client: A East Stroudsburg Area School District

Location: J.T. Lambert

Field Hygienist: Alyson Albertson



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Sample ID Lab ID	Sample Type (Air, Bulk, Tape)	Air-Flow Time		Air-Flow Rate		Air Volume(L) or Area (in) ²	Sample Location Description	Turnaround Time						Comments
		Start	End	Start	End			3-6hr	8-12hr	24hr	48hr	72hr	5-7 day	
ESA-JTL-11 <u>FL9095</u>	Air	1126	1131	15	15	75	Room 218						X	
ESA-JTL-12 <u>96</u>		1145	1150				Room 318						X	
ESA-JTL-13 <u>97</u>		1153	1158				Room 308						X	
ESA-JTL-14 <u>98</u>		1156	1201				Room 301						X	
ESA-JTL-15 <u>99</u>		1215	1220				Outside						X	
ESA-JTL-16 <u>100</u>		1216	1221				Outside						X	

Sampled By: Name: <u>Alyson Albertson</u>	Transported By: <u>Fed Ex</u>	Received By:	Prepared By:	Analyzed By:
Signature: <u>[Signature]</u>				
Date: <u>7/30/19</u>				