

Microbial
Air
Fungal Spore
Counts/Identification

Site
Dickerson School

Client
Chester Twp School District

Date of Sampling
September 1, 2018

Report Date
September 12, 2018

Prepared by

AERO Environmental Services Inc.

275 Route 10 East, Suite 220-306
Succasunna, NJ 07876
973-920-9061 (Tel)
973-529-0335(Fax)

AERO ENVIRONMENTAL SERVICES, INC.

CLIENT: Mr. Drew Vanderzee
Facilities Manager
Chester Twp School District
50 North Road, Building 4
Chester, NJ 07930

REPORT DATE: September 12, 2018

SERVICE: •Microbial Air Spore Counts & Identification by Direct Examination

**DATE of
SAMPLING:** September 1, 2018

SITE: Dickerson School

SAMPLED BY: Michael S. Berta

SCOPE of WORK: Perform background mold air sampling of Room 215. After thorough cleaning of room and removal of mold that was found on one paper product. Background air samples were collected to determine fungal spore levels that existed after all work was completed.

During the sampling an inspection was performed of the room and no additional visible mold was found.

Air samples were collected from Room 215 and Room 213 for comparison. An outdoor sample was also collected for comparison to indoor samples collected.

DISCUSSION

Microbial Sampling The goal of microbial sampling is to help determine whether microbial particulates present in a particular environment are affecting or causing irritation in certain individuals. While we are typically surrounded by a wide variety of different microorganisms every day, sampling provides us with a method to establish in a scientific way whether the environment in question contains microorganisms than would normally be present.

Microbial spores are literally everywhere. Levels rise and fall with the season. Microbials grow and produce their spore wherever there is enough moisture and nutrients. They exist in the air we breathe, on surfaces we touch, and flourish within our buildings and homes.

Currently there are no widely accepted protocols or regulations regarding microbial air sampling. In the absence of standards, we typically expect indoor spore counts not be significantly higher than outdoor spore counts, with the same general distribution of spore types present. A building with open doors and windows with heavy foot traffic may average 95 - 100% of the outdoor level. In addition dusty interiors may exceed 100% of the outdoors to some degree, but will still mirror the outdoor distribution of spore types.

The presence or absence of a few spore types in small numbers should not be considered abnormal. In addition to the normal influx of outdoor organisms into a building, additional organisms can grow within the building. This occurs when there is just the right combination of factors, including the proper temperature, humidity and material on which the organisms can grow. Some of these conditions are inherent to the building structure while others are related to the furnishings.

Microbial Air Sampling

Fungal air samples (spore trap cassettes) were collected from Room 215 (A-1), Room 213 (A-2) for comparison & Outside the building (A-3) for comparison to indoor samples collected.

The samples were collected utilizing a high volume air sampling pump, calibrated to 15 liters per minute, for duration of five (5) minutes. The sample collection with spore trap cassettes involved drawing air into 37 millimeter cassettes containing adhesive coated glass cover slips. The sample bearing covers slips were viewed under a compound microscope equipped for bright field and polarized light applications. Spore quantification reported as total, meaning they include both viable and non-viable fungal spores per cubic meter.

SAMPLING RESULTS:

AIRBORNE TOTAL FUNGAL SPORE RESULTS

Sample ID	Location	Results Counts/m ³	Type of fungal Spores Found
A-1	Room 215	4470 2900 300 40 Total 7710	Ascospores Basidiospores Cladosporium Ganoderma
A-2	Room 213	3100 4470 300 Total 7870	Ascospores Basidiospores Cladosporium
A-3	Outside of School	8530 200 10500 4470 450 90 40 10 Total 24290	Ascospores Aspergillus/Penicillium Basidiospores Cladosporium Ganoderma Myxomycetes Pithomyces Nigrospora

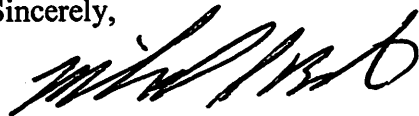
The inside total spore concentrations found in Room 215 and Room 213 are much lower than the outside sample collected, with similar spore types found. This indicates a significant mold source was not found in Room 215 or any of the locations tested at the time of sampling.

CONCLUSION

Based on the air sampling performed, elevated levels of mold spores were not found at the time of testing in Room 215. No recognized mold hazard was found and the room may be occupied.

If after reviewing this report you have any questions, please contact me directly at 973-920-9061.

Sincerely,



Michael S. Berta, CSP, CPEA, CMC
Environmental Safety & Health Manager

Attachments:

EMSL- Analysis Results



EMSL Analytical, Inc.

1056 Stelton Road Piscataway, NJ 08854
Phone/Fax: (732) 981-0550 / (732) 981-0551
<http://www.EMSL.com> / piscatawaylab@emsl.com

Order ID: 051804524
Customer ID: AERO50
Customer PO:
Project ID:

Attn: Michael Berta
AERO Environmental Services, Inc
275 Route 10 East
Suite 220-306
Succasunna, NJ 07876
Proj: Dickerson-AOC

Phone: (973) 920-9061
Fax: (973) 529-0335
Collected: 09/01/2018
Received: 09/04/2018
Analyzed: 09/04/2018

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

Lab Sample Number:	051804524-0001	051804524-0002	051804524-0003		
Client Sample ID:	A-1	A-2	A-3		
Volume (L):	75	75	75		
Sample Location:	RM 215	RM 213	Outside Building		
Spore Types	Count/m ³	Count/m ³	Count/m ³		
Alternaria (Ulocladium)	-	-	-		
Ascospores	4470	3100	8530		
Aspergillus/Penicillium	-	-	200		
Basidiospores	2900	4470	10500		
Bipolaris++	-	-	-		
Chaetomium	-	-	-		
Cladosporium	300	300	4470		
Curvularia	-	-	-		
Epicoccum	-	-	-		
Fusarium	-	-	-		
Ganoderma	40	-	450		
Myxomycetes++	-	-	90*		
Pithomyces++	-	-	40		
Rust	-	-	-		
Scopulariopsis/Microascus	-	-	-		
Stachybotrys/Memnoniella	-	-	-		
Unidentifiable Spores	-	-	-		
Zygomycetes	-	-	-		
Nigrospora	-	-	10*		
Total Fungi	7710	7870	24290		
Hyphal Fragment	-	-	-		
Insect Fragment	-	-	-		
Pollen	-	-	-		
Analyt. Sensitivity 600x	41	41	41		
Analyt. Sensitivity 300x	13*	13*	13*		
Skin Fragments (1-4)	2	2	2		
Fibrous Particulate (1-4)	1	1	2		
Background (1-5)	1	1	2		

Myxomycetes++ = Myxomycetes/Periconia/Smut
Bipolaris++ = Bipolaris/Drechslera/Exserohilum

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

Chaiyut Sae Lao

Chaiyut Sae Lao, Laboratory Manager
or Other Approved Signatory

Samples received in good condition unless otherwise noted. High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client.

Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA-LAP, LLC--EMLAP Accredited #167035

Initial report from: 09/05/2018 08:59:09

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



Microbiology Laboratory Chain of Custody

EMSL Order Number (Lab Use Only):

051804524

Company: AERO Environmental Services		EMSL-Bill to: ☒ Same ☐ Different	
Street: 275 Rt 10 East, 220-306		If Bill to is Different note instructions in Comments**	
City/State/Zip: Succasunna, NJ 07876		Third Party Billing requires written authorization from third party	
Report To (Name): Michael Berta		Fax: 973 529 0335	
Telephone: 973 920 9061		Email Address: mberta@aeroenvironmental.net	
Project Name/Number: Dickerson - AOC			
Please Provide Results: Email		Purchase Order:	
		State Samples Taken: NJ	

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ☒ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements

Non Culturable Air Samples (Spore Traps)

- | | | | | |
|-------------------|-------------------|--------------------|---------------------|-------------------|
| • M001 Air-O-Cell | • M173 Allegro M2 | • M004 Allergenco | • M032 Allergenco-D | • M172 Versa Trap |
| • M049 BioSIS | • M003 Burkard | • M043 Cyclex | • M002 Cyclex-d | |
| • M030 Micro 5 | • M174 MoldSnap | • M176 Relle Smart | • M130 Via-Cell | |

Other Microbiology Test Codes

- | | | |
|--|--|---|
| • M041 Fungal Direct Examination | • M014 Endotoxin Analysis | • M029 Enterococci |
| • M005 Viable Fungi ID and Count | • M015 Heterotrophic Plate Count | • M019 Fecal Coliform |
| • M006 Viable Fungi ID and Count (Speciation) | • M180 Real Time Q-PCR-ERMI 36 | • M133 MRSA Analysis |
| • M007 Culturable Fungi | • Panel | • M028 <i>Cryptococcus neoformans</i> Detection |
| • M008 Culturable Fungi (Speciation) | • M018 Total Coliform | • M120 <i>Histoplasma capsulatum</i> Detection |
| • M009 Gram Stain Culturable Bacteria | (Membrane Filtration) | • M033-39 Allergen Testing |
| • M010 Bacterial Count and ID - 3 Most Prominent | • M020 Fecal <i>Streptococcus</i> | • M044 Group Allergen |
| • M011 Bacterial Count and ID - 5 Most Prominent | (Membrane Filtration) | (Cat, Dog, Cockroach, Dustmites) |
| • M013 Sewage Contamination in Buildings | • M210-215 <i>Legionella</i> Detection | • Other See Analytical Price Guide |
| | • M026 Recreational Water Screen | |
| | • M027 Mycotoxin Analysis | |

Preservation Method (Water):

Name of Sampler: Michael Berta	Signature of Sampler: <i>MBerta</i>
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Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
A-1	Room 215	A.c	M001	75L	9/1/18 857/902
A-2	Room 213	A.c	M001	75L	9/1/18 907/912
A-3	Outside Building	A.c	M001	75L	9/1/18 916/921

Client Sample # (s): A-1 - A-3	Total # of Samples:
Relinquished (Client): <i>MBerta</i>	Date: 9/1/18 Time: 1930
Received (Client):	Date: Time:

Comments/Special Instructions:

RECEIVED

SEP 04 2018