



EA GROUP

Environmental Analysis
and Management

RECEIVED
MAY 25 2018

SERVICE CENTER

May 25, 2018

Ms. Debbie Wright
Shaker Heights City School District
15600 Parkland Drive
Shaker Heights, Ohio 44120

RE: **Air Sampling for Mold**
Music Room B4, Boulevard Elementary School, 14900 Drexmore Road; Shaker Heights, Ohio
OH41924

Description of Work

EA Group, Mentor, Ohio was contracted by Shaker Heights City School District to conduct air sampling for fungal (mold) spores in Music Room B4 at Boulevard Elementary School, following cleaning of a wall that had suspect fungal growth. Bioaerosol sampling was conducted on May 21, 2018 by EA Group representative Kip Crayton.

Bioaerosol Sampling and Results

Bioaerosol sampling was conducted in Music Room B4 and the gym, as an indoor control area, as well as outdoors, to assess total concentrations of airborne fungal structures (viable and non-viable spores, fragments, etc.). Samples were secured on 37-mm Air-O-Cell cassettes, which have a slit opening to control air flow and a sticky surface that captures both viable and non-viable fungal spores and non-viable fungal particles, as well as other airborne particulates. The cassettes are analyzed by microscopic methods, with results expressed as total fungal structures per cubic meter (FS/m³) of air. The analytical results for the bioaerosol monitoring are summarized in Table 1 and detailed in the attached laboratory report.

As shown in Table 1, total fungal spore concentrations in the indoor samples were much lower than outdoors, with no amplification of individual types, including types typically associated with water-damaged building materials (e.g., *Penicillium/Aspergillus*-type) [none detected in Music Room B4].

LIMITATIONS TO THIS REPORT

1. EA Group's involvement in this project was limited to this post-cleaning assessment.
2. EA Group's report reflects only the conditions that existed at the time of the assessment(s). Microbial contaminants may continue to spread during and after the evaluation and remediation phase and airborne contaminant levels may vary over time.
3. EA Group makes use of guidelines and recommendations developed by the American Industrial Hygiene Association (AIHA) and the American Conference of Governmental and Industrial Hygienists (ACGIH) for the assessment of indoor fungi. At this time there are no governmental regulations or standards that apply to fungal exposures.
4. Any reports or remediation plans produced for the project site are limited to the portion(s) of the building identified in EA Group's Scope of Work Agreement.



May 25, 2018

Shaker Heights City School District

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OH41924

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The data, information, interpretations, or recommendations contained in EA Group's reports or remediation plans are presented solely as a basis and guide to the existing conditions as evaluated at the project site. EA Group developed any conclusions or professional opinions presented herein in accordance with generally accepted industrial hygiene principles and practices, and any opinions expressed herein are subject to revision in light of new information that may be developed in the future. No warranties are expressed or implied.

This report has not been prepared for use by any party other than our Client. It may not contain sufficient information for the purposes of other parties or other uses. If any significant changes are made to site conditions, resident activities, equipment, etc. described in this report, any conclusions and recommendations contained herein may be invalid, unless the changes are reviewed by EA Group and the conclusions and recommendations are modified or approved in writing.

If there are any questions or concerns regarding the information provided, please contact the undersigned. Thank you for consulting EA Group.

Sincerely,

EA Group

Patrick G. Herbert,
President

**Table 1. Summary of Air Sample Results for Fungal Structures
Shaker Heights City School District
Boulevard Elementary School**

May 21, 2018 Sampling

Location	Outdoors	Gym [control]	Music Room B4
Fungal Spore / Sample I.D.	052118-03	052118-02	052118-01
Basidiospores	11,000	170	350
Ascospores	9,700	190	350
<i>Cladosporium</i>	810	53	40
<i>Penicillium/Aspergillus</i> types	310	93	
other Brown	53		
Smuts/ <i>Myxomycetes/Periconia</i>	40	27	
Rusts		13	13
Total Fungal Spores	22,000	550	750
Hyphal Fragments	27	130	40
Pollen	570		
Debris Rating	3+	3+	2+

Results expressed as fungal structures per cubic meter of air (FS/m³)

Debris Rating:

Background debris is indication of amount of non-biological particulate matter (dust) present on slide; graded from 1+ to 4+, with 4+ indicating largest amount. Counts with 4+ may be higher than reported.



Report for:

Mr. Tim Bowen
EA Group
7118 Industrial Park Blvd.
Mentor, OH 44060

Regarding: Project: OH41924; Shaker Hts., City Schools
EML ID: 1932449

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis: 05-24-2018

Service SOPs: Spore trap analysis (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #102297

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: EA Group
 C/O: Mr. Tim Bowen
 Re: OH41924; Shaker Hts., City Schools

Date of Sampling: 05-21-2018
 Date of Receipt: 05-23-2018
 Date of Report: 05-24-2018

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

	OH41924-52118-01A: Music room, B4				OH41924-52118-02A: Gym				OH41924-52118-03A: Outdoors			
	raw ct.	Count/m ³	DL/m ³ *	%	raw ct.	Count/m ³	DL/m ³ *	%	raw ct.	Count/m ³	DL/m ³ *	%
Comments (see below)	None				None				None			
Lab ID-Version†:	9091500-1				9091501-1				9091502-1			
Analysis Date:	05/24/2018				05/24/2018				05/24/2018			
Sample volume (liters)	75				75				75			
Background debris (1-4+)††	2+				3+				3+			
Hyphal fragments	3	40	13	n/a	10	130	13	n/a	2	27	13	n/a
Pollen									43	570	13	n/a
§ TOTAL FUNGAL SPORES	56	750	n/a	100	41	550	n/a	100	249	22,000	n/a	100
Ascospores	26	350	13	46	14	190	13	34	73	9,700	130	44
Basidiospores	26	350	13	46	13	170	13	32	85	11,000	130	51
Chaetomium												
Cladosporium	3	40	13	5	4	53	13	10	61	810	13	4
Other brown									4	53	13	<1
Penicillium/Aspergillus types					7	93	13	17	23	310	13	1
Rusts	1	13	13	2	1	13	13	2				
Smuts, Periconia, Myxomycetes					2	27	13	5	3	40	13	<1
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Zygomycetes												

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity/limit of detection is the Count/m³ divided by the raw count, expressed in Count/m³.

*The detection limit/limit of detection (DL) per cubic meter (m³) has been rounded to two significant figures to reflect analytical precision.

††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Fungal Spores has been rounded to two significant figures to reflect analytical precision.

CHAIN OF CUSTODY
www.EMLabPK.com



A TestAmerica Company

Cherry Hill, NJ: 1936 Chney Avenue, Cherry Hill, NJ 08003 * (856) 871-1984
 Phoenix, AZ: 1501 West Knudsen Drive, Phoenix, AZ 85027 * (602) 651-4802
 San Bruno, CA: 1150 Bayhill Drive, #100, San Bruno, CA 94088 * (650) 388-0953

001932449

Fog	Rain	Snow	Wind	Clear
None	Light	Moderate	Heavy	

Company: EAGroup, Inc. Address: 7118 Indust., Park Blvd., Mentor, OH 44060
 Contact: Tim Bowen Special Instructions: Please email results to: brenbarger@eagroupohio.com
 Phone: 440 951-3514

Project ID:	Project Description:	Project Zip Code:	Sampling Date & Time:	STD - Standard (DEFAULT)	ND - Next Business Day	SD - Same Business Day Rush	WH - Weekend / Holiday
CH41824	Shaker Hts., City Schools		5/21/18				
	MUSIC ROOM, B4			ND	75 L		
	GYM			ND	75 L		
	OUTDOORS			ND	75 L		

Non-Culturable	Culturable	Other Requests
<input checked="" type="checkbox"/> Fungi - Spore Trap Analysis <input checked="" type="checkbox"/> Spore Trap Analysis - Other particles <input type="checkbox"/> Direct Microscopic Exam (Qualitative) <input type="checkbox"/> Quantitative Spore Count Direct Exam	<input type="checkbox"/> Bio-Cassette™, Anderson, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plates <input type="checkbox"/> Legionella culture <input type="checkbox"/> Gram Stain & Counts (Culturable Mr & Surface Bacteria) <input type="checkbox"/> Colimbe Air Fungi (Genus ID + Asp. spp.) <input type="checkbox"/> 3-Media Surface Fungi (Genus ID + Asp. spp.) <input type="checkbox"/> 2-Media Surface Fungi (Genus ID + Asp. spp.) <input type="checkbox"/> 1-Media Surface Fungi (Genus ID + Asp. spp.) <input type="checkbox"/> Total Coliform, E. coli (Presence/Absence) <input type="checkbox"/> Membrane Filtration (specify organism) <input type="checkbox"/> MPN Bacteria (specify organism) <input type="checkbox"/> Quantify - Sewage Screen	<input type="checkbox"/> Adhesives Analysis - POM Adhesive Fiber Count (NIOSH 7400) <input type="checkbox"/> Adhesives Analysis - PLM (EPA method 600/R-03-110) <input type="checkbox"/> PCR (specify test) <input type="checkbox"/> Specify Service

BC - BioCassette™	ST - Spore Trap, Zefon, Allergenco, Burkard...	T - Tape	D - Dust	5/22/18, 0645	K. Crayton	5/22/18, 0645	5/23/18
A15 - Anderson	P - Potable Water	SW - Swab	SO - Soil				
SAS - Surface Air Sampler	NP - Non-Potable Water	B - Bulk	O - Other:				
CP - Contact Plates							

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at <http://www.emlab.com/chainofcustody>
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 Doc. #1501 Rev. 05/18/08

INVOICE

Electro-Analytical dba EA Group
PAYMENT REMITTANCE
P.O. Box 94749
Cleveland, OH 44101-4749
www.eagroupohio.com
(440) 951-3514

INVOICE NUMBER: 0300163-IN
INVOICE DATE: 04/30/2018

ORDER NUMBER: OH41856
ORDER DATE: 04/30/2018
SALESPERSON: PGH
CUSTOMER NO: 0502921

RECEIVED
MAY - 9 2018

SOLD TO: **SERVICE CENTER**

Shaker Heights City Schools
Service Center
3654 Lee Road
Cleveland, OH 44120
CONFIRM TO:
Victor Ferrell

CUSTOMER P.O. 1831521 TERMS 2%-10 Net 30 Days

ITEM NO.	UNIT	ORDERED	PRICE	AMOUNT
HYGIENIST M. Kovell - 4/18/18	EACH	1.00	500.00	500.00
EQUIPMENT Equipment Charge	EACH	1.00	200.00	200.00
NON-VIABLE Fungal Count (non-viable)	EACH	6.00	60.00	360.00
REPORTING Data Review/Rpt. Development	EACH	1.00	400.00	400.00

MAY 18 2018
Net Invoice: 1,460.00
Less Discount: 0.00
Invoice Total: 1,460.00

Comment: IAQ - Service Center