

September 11, 2020

Mr. Samuel Teague Facilities Manager **Delsea Regional High School District** Fries Mill Road Franklinville, NJ 08322

RE: Indoor Air Quality Inspection Report – August 2020 Delsea High School Epic Project No. 20-3214

Dear Mr. Teague:

**Epic Environmental Services, LLC (Epic)** was retained by the Delsea Regional High School District (District) to perform indoor air quality inspections for eight randomly selected areas at the Delsea High School. The inspections consisted of visual observations and the collection of temperature and relative humidity data. Additionally, samples for airborne mold spores were collected in the inspection areas.

The visual inspections focused on signs of moisture, water intrusion, and visible mold growth.

Temperature and relative humidity data were compared to current New Jersey Indoor Air Quality and industry standards.

Epic Environmental performed the inspection August 26, 2019.

# Acceptable Temperature, Relative Humidity

Acceptable Indoor Temperature Range: 68° - 79° Fahrenheit Ideal Relative Humidity Range: 30-60%

The following rooms/areas were inspected:

Room N101B, Room E110, Room E116, Room S112, Room S220, Room N202, Library, Room S109

Delsea Regional High School District Indoor Air Quality Inspection Report – August 2020 Delsea High School Epic Project No. 20-3214 September 11, 2020

# Observations, Comments, and Recommendations

#### Room N101B

No visible mold was observed.

No evidence of recent water intrusion was observed.

Relative humidity was within ideal range (57%). Temperature was within the acceptable range.

Airborne mold spore concentrations were near or below outside (background) concentrations.

No action required at this time.

#### Room E110

No visible mold was observed.

No evidence of recent water intrusion was observed.

Relative humidity was within ideal range (54%). Temperature was within the acceptable range.

Airborne mold spore concentrations were near or below outside (background) concentrations.

No action required at this time.

#### Room E116

No visible mold was observed.

No evidence of recent water intrusion was observed.

Relative humidity was within acceptable range (59%). Temperature was within the acceptable range.

Airborne mold spore concentrations were near or below outside (background) concentrations.

No action required at this time.

#### Room S112

No visible mold was observed.

No evidence of recent water intrusion was observed.

Relative humidity was elevated (64%). Temperature was within the acceptable range.

Airborne mold spore concentrations were near or below outside (background) concentrations.

No action required at this time.

#### Room S220

Major visible mold was observed.

No evidence of recent water intrusion was observed.

Relative humidity was significantly elevated (76%). Temperature was within the acceptable range.

Airborne mold spore concentrations were near or below outside (background) concentrations.

Thorough cleaning is recommended on all horizontal surfaces/tables/furniture.

### Room N202

No visible mold was observed.

No evidence of recent water intrusion was observed.

Relative humidity was significantly elevated (70%). Temperature was elevated (82°F).

Airborne mold spore concentrations were near or below outside (background) concentrations.

Address HVAC system to assure room temperature is between 68°F - 78°F.

# Library

No visible mold was observed.

No evidence of recent water intrusion was observed.

Relative humidity was within acceptable range (44%). Temperature was within the acceptable range.

Airborne mold spore concentrations were near or below outside (background) concentrations.

No action required at this time.

HEALTH SAFETY ENVIRONMENT

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#### Room S109

No visible mold was observed.

No evidence of recent water intrusion was observed.

Relative humidity was within the ideal range (60%). Temperature was within the acceptable range.

Airborne mold spore concentrations were near or below outside (background) concentrations.

No action required at this time.

# **Air Sample Results**

Air samples were collected in 8 random locations throughout the school. Airborne mold spore concentrations were near or below background (outside) concentrations.

See Sample Data Summary

# **Conclusions**

• Assure steps are taken to reduce relative humidity to a maximum of 60% during the summer cooling season. Although most mold activity is not likely to start until extended periods of 75% or higher relative humidity are experienced, it is recommended to have the goal of 60%.

Please do not hesitate to contact me at 856-205-1077 should you have any questions.

An invoice for the completed project is enclosed.

Regards,

James Eberts

President

Epic Environmental Services, LLC

James J. Eleuts

Delsea Regional High School District Indoor Air Quality Inspection Report – August 2020 Delsea High School Epic Project No. 20-3214 September 11, 2020

# Sample Data Summary Air Sampling

Air Samples

**August 26, 2020** 

Air Sample Location	Airborne Mold Concentrations (spores/m³)					
	Total	Individual Mold Conc	entrations			
		Ascospores	80			
Room N1010B	5740	Aspergillus/Penicillium	80			
	4	Basidiospores	5500			
		Cladosporium	80			
		Alternaria	40			
Room E110	1040	Basidiospores	800			
		Cladosporium	200			
Room E116	2180	Aspergillus/Penicillium	80			
		Basidiospores	2100			
		Aspergillus/Penicillium	1200			
Room S112	1480	Basidiospores	200			
		Cladosporium	80			
		Ascospores	200			
Room S220	7580	Aspergillus/Penicillium	200			
		Basidiospores	7100			
		Cladosporium	80			
Room N202	4580	Ascospores	80			
		Basidiospores	4500			
Library	80	Basidiospores	80			
		Ascospores	200			
Room S109	4400	Aspergillus/Penicillium	200			
		Basidiospores	3800			
		Cladosporium	200			
		Ascospores	900			
Outside by Greenhouse	24320	Aspergillus/Penicillium	600			
		Basidiospores	20600			
		Cladosporium	1400			
		Ganoderma	300			
		Myxomycetes	300			
		Cerocspora	80			
		Polythrincium	80			

- Total mold counts found in green indicate a total airborne mold level NEAR or BELOW the outside (background) level.
- Total mold counts found in red indicate a total airborne mold level significantly ABOVE the outside (background) level, and may be an indicator of active mold growth.
- Individual molds listed in green indicate an individual airborne mold level NEAR or BELOW outside the (background) level.
- Individual molds listed in purple were not found in the background sample, but not considered evidence of a water/moisture issue or active mold growth.
- Individual molds listed in red indicate an individual airborne mold level significantly ABOVE the outside (background) level, and may be an indicator of active mold growth in the area.

Airborne mold spore concentrations were near or below background (outside) concentrations.

HEALTH SAFETY ENVIRONMENT



# EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077 Tel/Fax: (800) 220-3675 / (856) 786-0262 http://www.EMSL.com / cinnmicrolab@emsl.com EMSL Order: 372013793 Customer ID: EPIC62

Customer PO: Project ID:

Attention: James Eberts

Epic Environmental Services, LLC

1930 Brown Road Newfield, NJ 08344 Phone: (856) 205-1077 Fax: (856) 205-0413

Collected Date: 08/27/2020
Received Date: 08/27/2020
Analyzed Date: 08/28/2020

Project: Delsea High School IAQ

Test Report: Micro-5(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MtCRO-SOP-201, ASTM D7391) 372013793-0001 372013793-0002 372013793-0003 Client Sample ID H-01 H-02 H-03 Volume (L): 25 25 25 Sample Location: E116 N101B E110 Spore Types Raw Count Count/m<sup>3</sup> % of Total Raw Count Count/m<sup>3</sup> % of Total Raw Count Count/m<sup>3</sup> % of Total Alternaria (Ulocladium) 40\* 3.8 Ascospores 1 80 1.4 80 1 Aspergillus/Penicillium 1 80 1.4 3.7 5500 10 800 76.9 26 2100 96.3 Basidiospores 69 95.8 Bipolaris++ Chaetomium Cladosporium 1 80 1.4 2 200 19.2 Curvularia **Epicoccum Fusarium** Ganoderma Myxomycetes++ Pithomyces++ Rust Scopulariopsis/Microascus Stachybotrys/Memnoniella Unidentifiable Spores Zygomycetes Cercospore++ **Polythrincium Total Fungi** 72 5740 100 13 1040 100 27 2180 100 **Hyphal Fragment** Insect Fragment Pollen Analyt. Sensitivity 600x 80 80 80 40 40 Analyt. Sensitivity 300x 401 2 2 2 Skin Fragments (1-4) Fibrous Particulate (1-4) 1 1 1 Background (1-5)

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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

Vouent Tuggolino

Vincent luzzolino, M.S., Laboratory Director or other Approved Signatory

EMSL maintains liability limited to cost of analysis, interpretation and use of test results are the responsibility of the client. 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications 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.

Samples analyzed by EMSE Analytical, Inc. Cliniaminson, NJ AIHA-LAP, LLC--EMLAP Lab 100194

Initial report from: 08/28/2020 01:53 PM



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Project: Delsea High School IAQ

			ores & Particu	ilates by Optical		lethods MICRO			
Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	H-04 25		372013793-0005 H-05 25 9220			372013793-0006 H-06 25 N202			
Spore Types	Raw Count	Count/m²	% of Total	Raw Count	Count/m <sup>2</sup>	% of Total	Raw Count	Count/m³	% of Total
Alternaria (Ulociadium)	- '	-			•	•	-	•	•
Ascospores	-	-	-	3	200	2.6	1	80	1.7
Aspergillus/Penicillium	15	1200	81.1	2	200	2.6	-	•	•
Basidiospores	3	200	13.5	89	7100	93.7	56	4500	98.3
Bipolaris++	•	•	•		-	•	•	-	•
Chaetomium	•	•	•	•	•	•	•	•	•
Cladosporium	1	80	5.4	1	80	1.1		-	•
Curvularia	-	-	-	-	-	-	-	•	•
Epicoccum	•	•	•		•	-	-	•	•
Fusarium	*	-	•		•	-	-		•
Ganoderma	•	•	•		-	-	-	•	•
Myxomycetes++	-	-	•	-	-	-	•	•	•
Pithomyces++	-	-	-	-	•	-		-	•
Rust	•	•	•		-	•	-	-	-
Scopularlopsis/Microascus	•	-		•	•	•	-	•	•
Stachybotrys/Memnoniella	-	-	-		•	•		-	-
Unidentifiable Spores	-	•	-		*	•		•	
Zygomycetes	•	•			•	•	-	•	
Cercospora++	-	-	-		•	*	-	-	
Polythrincium	-	-	-	-	-	-		-	•
Total Fungi	19	1480	100	95	7580	100	57	4580	100
Hyphal Fragment		•	•		•	-	-	-	
Insect Fragment	•	-	-		-	-		•	•
Pollen	-	-	-	-	-	-	<u> </u>	•	•
Analyt. Sensitivity 600x	÷	80	•	•	80	•	-	80	•
Analyt. Sensitivity 300x	•	40*	•		40*	•		40*	-
Skin Fragments (1-4)	•	2	•		1	•		2	
Fibrous Particulate (1-4)	-	1	-	-	1	-		1	-
Background (1-5)		2			1			1	

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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

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High levels of background particulate: an 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 lungal 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.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC--EMLAP Lab 100194

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Project: Delsea High School IAQ

Test Report: Micro-5(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MiCRO-SOP-201, ASTM D7391)

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	372013793-0007 H-07 25 Library			372013793-0008 H-08 25 \$109			372013793-0009 H-09 25 Outside		
Spore Types	Raw Count	Count/m <sup>3</sup>	% of Total	Raw Count	Count/m <sup>3</sup>	% of Total	Raw Count	Count/m <sup>3</sup>	% of Total
Alternaria (Ulociadium)	• '	•			-	` -	•	•	•
Ascospores	•	-	•	2	200	4.5	12	960	3.9
Aspergillus/Penicillium		•	-	4*	200*	4.5	7	600	2.5
Basidiospores	1	80	100	47	3800	86.4	257	20600	84.7
Bipolaris++	•	-	•	-	-	- 1	-	-	•
Chaetomium	-	-	-	-	-	-	-	-	
Cladosporium	•	-	-	2	200	4.5	18	1400	5.8
Curvularia	-	-	-	-	•	•	-	•	•
Epicoccum	-	-	-	-	-	-	-	-	•
Fusarium	•	-	•	•	•	-	-	-	•
Ganoderma	-	•	-	•	•	-	4	300	1.2
Myxomycetes++	-	•	-	-	-	~	4	300	1.2
Pithomyces++		-	-	•	•	-	•	•	•
Rust	•	•	•	-	-	-		•	•
Scopulariopsis/Microascus	•	•	•	-	-	-		-	
Stachybotrys/Memnoniella	•	-	-	-	-	•	-		-
Unidentifiable Spores	•	•	-	-	•		-	-	
Zygomycetes	•	-		-	-	-		-	
Cercospora++	•	-		-		-	1	80	0.3
Polythrincium	-	-	-	-	-		1	80	0.3
Total Fungi	1	80	100	55	4400	100	304	24320	100
Hyphal Fragment		-			-		-	•	•
Insect Fragment		-		•	-	•		•	
Pollen	-	-	-	-	-			-	
Analyt. Sensitivity 600x	-	80	-	•	80	-	-	80	-
Analyt. Sensitivity 300x	-	40*			40*	-		40*	
Skin Fragments (1-4)	-	2			1	-		1	
Fibrous Particulate (1-4)		1			1	_		1	
Background (1-5)		1		_	2		_	1	_

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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# **Environmental Microbiology Chain of** Custody EMSL Order Number(Lab Use Only):

Westmont, NJ 107 Hadden Avenue Westmont, NJ 08108 PHONE: (856) 858-4800 FAX: (856) 858-4960

		372	013	793		( (850) 858-4 WO			
Company: Epic Envi	ronmental Services, LL	.C			-Bill to: 図Same		1		
Street: 1930 Brown Road			Third	If Bit to is Offerent note instructions in Commercs** Third Party Billing requires written authorization from third party					
City State Zip: New	fed. NJ 08344						1		
Report To (Name):	lames Eberts		Fax: 88	8-205-0413	}		1		
Telephone: 856-205	-1077		Email /	Addressjel	perts@epicenvi	ro.com	1		
Project Name/Numb	xer: Delsea Hish	School	CONTRACTOR OF THE PARTY OF THE	· · · · · · · · · · · · · · · · · · ·			1		
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<ul> <li>M007 Culturable Fur</li> <li>M000 Culturable Fur</li> </ul>		• Panel		V - 1 - May - V - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	• M026 Cy	francisco medicina per	E		
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Prominent • MO11 Bacterial Cour	tandi∩ fi Mod			prante Filtration) • M033-39 Allengeh Testing 😁 • M044 Group Allengen					
Prominent		• M026 A	M026 Recreptional Water Screen (Cat, Dog, Cookroach, Dustri						
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Preservation Method (	<b>(14.4.)</b>						4		
Name of Sampler:	I'm 9603				7	MAN			
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H-03	EIL	***************************************	****			1104	1		
11-04	5112	***************************************				1170	1		
H-05	5220		***************************************	1		1 1 1/2 2	1		
H-06	N202	POTENTI INDIANA AMARINA PERINTA PERINT	alland of the second and the second			1135	1		
H-07	Library					1143	1		
H-08	5104					LUSO 150	1		
4-09	Ostrile		····			1 1157	1		
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Comments/Special I	nstructions:		***************************************	**************************************			1		
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						( 9KD			



# AIHA Laboratory Accreditation Programs, LLC

acknowledges that

#### EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Laboratory ID: 100194
along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17035;2005 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

# LABORATORY ACCREDITATION PROGRAMS

INDUSTRIAL HYGIENE ENVIRONMENTAL LEAD ENVIRONMENTAL MICROBIOLOGY

☐ FOOD ☐ UNIQUE SCOPES

Accreditation Expires: November 01, 2020 Accreditation Expires: November 01, 2020 Accreditation Expires: November 01, 2020 Accreditation Expires: Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025/2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website (<a href="https://www.aihaaccreditedlabs.org">www.aihaaccreditedlabs.org</a>) for the most current Scope.

Betw Bair

Eltzabeth Batr

Chairperson, Analytical Accreditation Board

Revision 17 - 09/11/2018

Cheryl O. Charton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Date Issued: 11/30/2018