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CTEH[®]

THE SCIENCE OF READYSM

NORTH FORT MYERS HIGH SCHOOL

POST REMEDIATION ASSESSMENT

North Fort Myers, Florida

October 18, 2022

Project #021456

Post Remediation Assessment

Prepared By

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Prepared on October 18, 2022

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1.0 Background

On September 28, 2022, Hurricane Ian made landfall in Cayo Costa, FL with winds of 155 miles per hour, two miles per hour short of a Category 5 hurricane. Over the course of two days, Ian moved across Florida, exiting on September 30, 2022, but not before causing major flooding and tornado-like damage in areas across the state.

In response to Hurricane Ian, CTEH, LLC® (CTEH) was requested by Cotton Disaster Solutions (Cotton) to assess structures associated with Lee County School District awarded to them under RFQ No. 22-7431TA for potential water intrusion. On October 16, 2022, industrial hygienists from CTEH, LLC® (CTEH) and Universal Engineering Sciences (Universal) conducted post remediation verification (PRV) bioaerosol sampling and visually assessed the North Fort Myers High School at 5000 Orange Grove Boulevard, North Fort Myers, FL 33903. All samples were collected under the supervision of a licensed mold assessor from Universal. The assessments were requested by Cotton to assess the potential presence of airborne mold spores, and were conducted in both the impacted and non-impacted buildings.

Heating, ventilation, and air-conditioning (HVAC) for each room is provided by a HVAC system on the roof of the building.

At this time all rooms are sampled and there were no visible signs of mold in the rooms inspected; however, there was one room that contained spore counts associated with *Aspergillus/Penicillium* notably above background. This room is located at:

- Room E-251

The airborne bioaerosol sampling in all other rooms confirmed mold spores were consistent with what would be found outdoors or in a typical building environment.

2.0 Exposure Standards and Guidelines

Currently, there are no generally accepted occupational or public health standards for interpreting airborne microbiological sample results. Individual susceptibility varies with genetic predisposition, age, state of health, concurrent exposures, and previous sensitization. Due to these challenges, it is not possible to determine an indoor spore concentration that can guarantee all individuals will be asymptomatic. Guidelines published by the American Industrial Hygiene Association (AIHA) recommend comparing the indoor and outdoor air sampling results. In general, the types of fungi and their airborne concentrations found indoors should be similar (in non-problem buildings) to outdoor air.^[1] Differences in the airborne levels or types of fungi may indicate the presence of moisture sources and resultant fungal growth.

3.0 Methods and Equipment

All collected samples were sent under chain-of-custody to EMSL Analytical, Inc., an AIHA-accredited laboratory.* All monitoring equipment was factory calibrated at the manufacturers recommended interval or prior to sampling.

Bioaerosol samples were collected indoors and outdoors using Zefon Air-O-Cell sampling cassettes attached to an SKC QuickTake 30 air sampling pump. Prior to sampling, the pump was calibrated to a flowrate of approximately 15 L/min, as specified by the sampling media manufacturer, using a Bios Defender 510 DryCal. Each sample was collected for a five-minute duration resulting in a sampled air volume of approximately 75 Liters.† Samples were analyzed by microscopic examination using method EMSL 05-TP-003/ASTM D7391 to determine mold spore genus and spore concentration. This method does not differentiate between viable and non-viable spore types.

3.1 Visual Inspection

A visual inspection was conducted in accessible portions of the classrooms, school common areas, and above drop ceilings as necessary.

3.2 Psychrometric Assessment

A psychrometric assessment was conducted utilizing a Protimeter Hygromaster L (Model #: POL7750L) Hygrometer in both the impacted and non-impacted buildings.

4.0 Results

Laboratory reports for all samples are provided in **Appendix A**.

5.0 Conclusions and Recommendations

The inspections and tests were performed on October 16, 2022, by industrial hygienists from CTEH and Universal. The results of the post-remediation inspection revealed no visible mold growth but did reveal one room that had spore counts for *Aspergillus/Penicillium* notably above background. Cotton was notified of these results and advised to investigate the potential source of these detections further, and that isolation of the room and additional remediation actions prior to permitting re-occupancy to this school location may be warranted. The post-remediation inspection also revealed psychrometric (i.e., atmospheric) readings above 55 Grains of Moisture per Pound of Air (GPP), as well as a single *Stachybotrys* spore (Raw Count = 1; Count/M³ = 40) in the Room S-110 and a single *Chaetomium* spore (Raw Count = 1;

* AIHA Laboratory Accreditation Program (AIHA-LAP) – Environmental Microbiology; AIHA Environmental Microbiology Proficiency Analytical Testing Program (AIHA-EMPAT) Participant; CDC Elite – *Legionella*

† See laboratory reports in the appendix for exact flowrates and collected volumes.

Count/M³ = 40) in Room S-241, but neither was present with Chaetomium, Stachybotrys, or levels of Aspergillus/Penicillium above background. However, these items may warrant further investigation / dehumidification techniques to inhibit microbial growth.

The results of the air testing in all other assessed rooms are considered normal and typical and do not indicate the presence of elevated airborne mold spores.

While some areas of the North Fort Myers High School may be fit for re-occupancy at this time, the presence of Aspergillus/Penicillium notably above background may warrant a more thorough investigation, and it is recommended that, at a minimum, the room that contained elevated spore counts is retested following further investigation and remediation activities prior to removing occupancy restrictions.

6.0 References

[1] (AIHA), American Industrial Hygiene Association. *Facts About Mold*. Edited by American Industrial Hygiene Association (AIHA). Falls Church, Virginia: AIHA, 2011.

Appendix A

Laboratory Reports



EMSL Analytical, Inc.

5700 Memorial Highway, Suite 122 Tampa, FL 33615

Tel/Fax: (813) 280-8752 / (813) 280-8753

[http://www.EMSL.com / tampalab@emsl.com](http://www.EMSL.com/tampalab@emsl.com)

EMSL Order: 932205779

Customer ID: CTEH99

Customer PO:

Project ID:

Attention: David Watts
CTEH Center for Toxicology & Env. Health
5120 North Shore Drive
North Little Rock, AR 72118

Phone: (501) 366-0852
Fax: (501) 614-2835
Collected Date: 10/16/2022
Received Date: 10/17/2022 05:30 AM
Analyzed Date: 10/17/2022

Project: 021453

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

Lab Sample Number:	932205779-0011			932205779-0012			932205779-0013		
Client Sample ID:	NFMHS1016MS011			NFMHS1016MS012			NFMHS1016MS013		
Volume (L):	75			75			75		
Sample Location:	E-226			E-238			E-217		
Spore Types	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	1	40	3.8	-	-	-
Aspergillus/Penicillium	2	90	100	6	200	19.2	9	400	53.3
Basidiospores	-	-	-	7	300	28.8	4	200	26.7
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	11	450	43.3	3	100	13.3
Curvularia	-	-	-	1	40	3.8	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	1*	10*	1	1*	10*	1.3
Pithomyces++	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Blakeslea/Choanephora	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Pyricularia	-	-	-	-	-	-	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Torula++	-	-	-	-	-	-	1	40	5.3
Total Fungi	2	90	100	27	1040	100	18	750	100
Hyphal Fragment	-	-	-	1*	10*	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Moss/Fern Spores	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	41	-	-	41	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

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

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Tampa, FL A2LA Accredited – Certificate #2845.28

Report Amended: 10/17/2022 12:22 PM Replaces amended report from: 10/17/2022 12:17 PM Reason Code: Client-Change to Sample Volume

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Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	932205779-0014 NFMHS1016MS014 75 Clinic			932205779-0015 NFMHS1016MS016 75 Teacher Planning			932205779-0016 NFMHS1016MS015 75 Office		
Spore Types	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	1	40	2.8	1	40	5.9
Aspergillus/Penicillium	10	410	51.9	5	200	13.8	5	200	29.4
Basidiospores	3	100	12.7	-	-	-	4	200	29.4
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	4	200	25.3	30	1200	82.8	6	200	29.4
Curvularia	-	-	-	1*	10*	0.7	1	40	5.9
Epicoccum	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	2	80	10.1	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Blakeslea/Choanephora	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Pyricularia	-	-	-	-	-	-	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Torula++	-	-	-	-	-	-	-	-	-
Total Fungi	19	790	100	37	1450	100	17	680	100
Hyphal Fragment	-	-	-	-	-	-	1	40	-
Insect Fragment	1	40	-	1	40	-	1	40	-
Pollen	-	-	-	-	-	-	-	-	-
Moss/Fern Spores	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	41	-	-	41	-	-	41	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	2	-
Fibrous Particulate (1-4)	-	2	-	-	1	-	-	2	-
Background (1-5)	-	1	-	-	1	-	-	2	-

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

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	932205779-0017 NFMHS1016MS017 75 E-115			932205779-0018 NFMHS1016MS018 75 E-118			932205779-0019 NFMHS1016MS019 75 C115		
Spore Types	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	2	80	3.5	1	40	30.8	2	90	31
Basidiospores	1	40	1.7	-	-	-	3	100	34.5
Bipolaris++	-	-	-	-	-	-	1*	10*	3.4
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	51	2100	91.3	2	90	69.2	2	90	31
Curvularia	2	80	3.5	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Blakeslea/Choanephora	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Pyricularia	-	-	-	-	-	-	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Torula++	-	-	-	-	-	-	-	-	-
Total Fungi	56	2300	100	3	130	100	8	290	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	1	40	-
Pollen	-	-	-	-	-	-	-	-	-
Moss/Fern Spores	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	41	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	2	-	-	1	-	-	2	-

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

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	932205779-0020 NFMHS1016MS020 75 C124			932205779-0021 NFMHS1016MS021 75 E-223			932205779-0022 NFMHS1016MS022 75 E-228			
	Spore Types	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	1	40	4.9	1	40	14.3	
Aspergillus/Penicillium	1	40	44.4	3	100	12.2	1	40	14.3	
Basidiospores	1*	10*	11.1	6	300	36.6	3	100	35.7	
Bipolaris++	-	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-	-
Cladosporium	1	40	44.4	1	40	4.9	3	100	35.7	
Curvularia	-	-	-	1	40	4.9	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-	-
Blakeslea/Choanephora	-	-	-	6	300	36.6	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-	-
Pyricularia	-	-	-	-	-	-	-	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-	-
Torula++	-	-	-	-	-	-	-	-	-	-
Total Fungi	3	90	100	18	820	100	8	280	100	
Hyphal Fragment	-	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-	-
Pollen	1*	10*	-	-	-	-	-	-	-	-
Moss/Fern Spores	-	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-	-
Skin Fragments (1-4)	-	1	-	-	2	-	-	1	-	-
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.

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Project: 021453

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

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	932205779-0023 NFMHS1016MS023 75 E-251			932205779-0024 NFMHS1016MS024 75 A-104			932205779-0025 NFMHS1016MS025 75 S132		
	Spore Types	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³
Alternaria (Ulocladium)	1	40	0.2	-	-	-	-	-	-
Ascospores	34	1500	9.1	1*	10*	6.3	-	-	-
Aspergillus/Penicillium	48	2100	12.7	2	90	56.3	1	40	25
Basidiospores	163	7200	43.5	-	-	-	3	100	62.5
Bipolaris++	2*	30*	0.2	-	-	-	1*	10*	6.3
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	118	5210	31.5	1	40	25	-	-	-
Curvularia	2	90	0.5	1*	10*	6.3	1*	10*	6.3
Epicoccum	-	-	-	-	-	-	-	-	-
Ganoderma	2	90	0.5	-	-	-	-	-	-
Myxomycetes++	1	40	0.2	-	-	-	-	-	-
Pithomyces++	1*	10*	0.1	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Blakeslea/Choanephora	-	-	-	-	-	-	-	-	-
Cercospora++	3	100	0.6	-	-	-	-	-	-
Nigrospora	1	40	0.2	1*	10*	6.3	-	-	-
Pestalotia++	1*	10*	0.1	-	-	-	-	-	-
Pyricularia	1	40	0.2	-	-	-	-	-	-
Tetraploa	1*	10*	0.1	-	-	-	-	-	-
Torula++	1	40	0.2	-	-	-	-	-	-
Total Fungi	380	16550	100	6	160	100	6	160	100
Hyphal Fragment	6	300	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	1*	10*	-	-	-	-	-	-	-
Moss/Fern Spores	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	2	-

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

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Tampa, FL A2LA Accredited – Certificate #2845.28

Report Amended: 10/17/2022 12:22 PM Replaces amended report from: 10/17/2022 12:17 PM Reason Code: Client-Change to Sample Volume

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



EMSL Analytical, Inc.

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EMSL Order: 932205779

Customer ID: CTEH99

Customer PO:

Project ID:

Attention: David Watts
CTEH Center for Toxicology & Env. Health
5120 North Shore Drive
North Little Rock, AR 72118

Phone: (501) 366-0852
Fax: (501) 614-2835
Collected Date: 10/16/2022
Received Date: 10/17/2022 05:30 AM
Analyzed Date: 10/17/2022

Project: 021453

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

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	932205779-0026 NFMHS1016MS026 75 S110			932205779-0027 NFMHS1016MS027 75 07-011			932205779-0028 NFMHS1016MS028 75 E-122		
Spore Types	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	1	40	8.2	2	90	4.3	-	-	-
Aspergillus/Penicillium	1	40	8.2	5	200	9.5	-	-	-
Basidiospores	6	300	61.2	17	750	35.7	1	40	80
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	3	100	20.4	20	880	41.9	-	-	-
Curvularia	-	-	-	2	90	4.3	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	2	90	4.3	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	1*	10*	2	-	-	-	-	-	-
Blakeslea/Choanephora	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	1*	10*	20
Pyricularia	-	-	-	-	-	-	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Torula++	-	-	-	-	-	-	-	-	-
Total Fungi	12	490	100	48	2100	100	2	50	100
Hyphal Fragment	1	40	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Moss/Fern Spores	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
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.

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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Report Amended: 10/17/2022 12:22 PM Replaces amended report from: 10/17/2022 12:17 PM Reason Code: Client-Change to Sample Volume

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Collected Date: 10/16/2022
Received Date: 10/17/2022 05:30 AM
Analyzed Date: 10/17/2022

Project: 021453

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

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	932205779-0029 NFMHS1016BG001 75 Outside of E-238			932205779-0030 NFMHS1016BG002 75 In front of School			932205779-0031 NFMHS1016FB001 E-238		
Spore Types	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total	Raw Count	Count/M ³	% of Total
Alternaria (Ulocladium)	-	-	-	1	40	0.6	-	-	-
Ascospores	-	-	-	18	800	12.8	-	-	-
Aspergillus/Penicillium	-	-	-	3	100	1.6	-	-	-
Basidiospores	1	40	100	33	1500	24	-	-	-
Bipolaris++	-	-	-	3	100	1.6	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	71	3100	49.5	-	-	-
Curvularia	-	-	-	4	200	3.2	-	-	-
Epicoccum	-	-	-	1*	10*	0.2	-	-	-
Ganoderma	-	-	-	2	90	1.4	-	-	-
Myxomycetes++	-	-	-	3	100	1.6	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Blakeslea/Choanephora	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	2	90	1.4	-	-	-
Nigrospora	-	-	-	2	90	1.4	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Pyricularia	-	-	-	1	40	0.6	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Torula++	-	-	-	-	-	-	-	-	-
Total Fungi	1	40	100	144	6260	100	-	None Detect	-
Hyphal Fragment	-	-	-	3	100	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	1	40	-	-	-	-
Moss/Fern Spores	-	-	-	1	40	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	0	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	0*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

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

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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Phone: (501) 801-8500
Fax: (501) 614-2835
Collected Date: 10/16/2022
Received Date: 10/17/2022
Analyzed Date: 10/17/2022

Project: 021453

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

Lab Sample Number:	932205779-0001			932205779-0002			932205779-0003		
Client Sample ID:	NFMHS1016MS001			NFMHS1016MS002			NFMHS1016MS003		
Volume (L):	75			75			75		
Sample Location:	E-206			E-231			S-241		
Spore Types	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	1	40	17.4	-	-	-	-	-	-
Aspergillus/Penicillium	2	90	39.1	-	-	-	-	-	-
Basidiospores	2	90	39.1	-	-	-	3	100	47.6
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	1	40	19
Cladosporium	-	-	-	-	-	-	2*	30*	14.3
Curvularia	1*	10*	4.3	-	-	-	-	-	-
Epicoccum	-	-	-	1	40	100	-	-	-
Fusarium++	-	-	-	-	-	-	1	40	19
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Total Fungi	6	230	100	1	40	100	7	210	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

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

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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

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Samples analyzed by EMSL Analytical, Inc. Tampa, FL

Initial report from: 10/17/2022 11:07 AM

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North Little Rock, AR 72118

Phone: (501) 801-8500
Fax: (501) 614-2835
Collected Date: 10/16/2022
Received Date: 10/17/2022
Analyzed Date: 10/17/2022

Project: 021453

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

Lab Sample Number:	932205779-0004			932205779-0005			932205779-0006		
Client Sample ID:	NFMHS1016MS004			NFMHS1016MS006			NFMHS1016MS005		
Volume (L):	75			75			75		
Sample Location:	SW corner of Auditorium			S-147			NE Corner of auditorium		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	2	90	50
Aspergillus/Penicillium	-	-	-	1	40	21.1	-	-	-
Basidiospores	1	40	100	2*	30*	15.8	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	1	40	21.1	-	-	-
Curvularia	-	-	-	-	-	-	2	90	50
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	1	40	21.1	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	1	40	21.1	-	-	-
Total Fungi	1	40	100	6	190	100	4	180	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ 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.

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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Collected Date: 10/16/2022
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Analyzed Date: 10/17/2022

Project: 021453

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

Lab Sample Number:	932205779-0007			932205779-0008			932205779-0009		
Client Sample ID:	NFMHS1016MS007			NFMHS1016MS008			NFMHS1016MS009		
Volume (L):	75			75			75		
Sample Location:	Girls locker room			E-140			E-123		
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	1	40	12.5
Aspergillus/Penicillium	5	200	51.3	2	90	69.2	4	200	62.5
Basidiospores	2	90	23.1	1	40	30.8	1	40	12.5
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	3	100	25.6	-	-	-	1	40	12.5
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Total Fungi	10	390	100	3	130	100	7	320	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	2	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ 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.

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Tampa, FL

Initial report from: 10/17/2022 11:07 AM

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



EMSL Analytical, Inc.

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Tel/Fax: (813) 280-8752 / (813) 280-8753

http://www.EMSL.com / tampalab@emsl.com

EMSL Order: 932205779

Customer ID: CTEH99

Customer PO:

Project ID:

Attention: David Watts
CTEH Center for Toxicology & Env. Health
5120 North Shore Drive
North Little Rock, AR 72118

Phone: (501) 801-8500
Fax: (501) 614-2835
Collected Date: 10/16/2022
Received Date: 10/17/2022
Analyzed Date: 10/17/2022

Project: 021453

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

Lab Sample Number:	932205779-0010			932205779-0032			
Client Sample ID:	NFMHS1016MS010			NFMHS1016MS029			
Volume (L):	75			75			
Sample Location:	Middle of cafeteria			Middle of Kitchen			
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	
Alternaria (Ulocladium)	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-
Aspergillus/Penicillium	2	90	52.9	2	90	50	-
Basidiospores	1	40	23.5	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-
Cladosporium	1	40	23.5	2	90	50	-
Curvularia	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-
Total Fungi	4	170	100	4	180	100	
Hyphal Fragment	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-
Skin Fragments (1-4)	-	1	-	-	1	-	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-
Background (1-5)	-	1	-	-	1	-	-

++ 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.

Gerald Iannuzzi, Laboratory Manager
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