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THE SCIENCE OF READYSM

HEIGHTS ELEMENTARY SCHOOL

POST REMEDIATION ASSESSMENT

Fort Myers, Florida

October 18, 2022

Project #021455

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 and Universal Engineering Sciences (Universal) conducted post remediation verification (PRV) bioaerosol sampling and visually assessed the Heights Elementary School at 15200 Alexandria Court, Fort Myers, FL 33908. 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 and the airborne bioaerosol sampling 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 nor obviously damp materials in the rooms inspected. The post-remediation inspection did reveal psychrometric (i.e., atmospheric) readings above 55 Grains of Moisture per Pound of Air (GPP), which may warrant further investigation / dehumidification techniques to inhibit microbial growth.

* 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.

The results of the air testing in the assessed rooms are considered normal and typical and do not indicate the presence of elevated airborne mold spores. No further testing is warranted at this time and the affected areas are permitted to be re-occupied without any further access 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

EMSL Order: 932205778

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:	932205778-0001			932205778-0002			932205778-0003		
Client Sample ID:	HES1016M001			HES1016M002			HES1016M003		
Volume (L):	75			75			75		
Sample Location:	1-007			Secretary			Prpl 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	2.3	1	40	4.8	1	40	7
Aspergillus/Penicillium	24	1100	63.6	8	400	48.2	3	100	17.5
Basidiospores	6	300	17.3	4	200	24.1	2	90	15.8
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	4	200	11.6	3	100	12	6	300	52.6
Curvularia	2	90	5.2	2	90	10.8	1	40	7
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Total Fungi	37	1730	100	18	830	100	13	570	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)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	2	-	-	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

Initial report from: 10/17/2022 12:07 PM

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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:	932205778-0004 HES1016M004 75 Conf Room			932205778-0005 HES1016M005 75 1-025			932205778-0006 HES1016M006 75 1-029		
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	9.3	1	40	10.5	1	40	10.5
Aspergillus/Penicillium	3	100	23.3	4	200	52.6	4	200	52.6
Basidiospores	4	200	46.5	3	100	26.3	1	40	10.5
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	2	90	20.9	-	-	-	3	100	26.3
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	1	40	10.5	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Total Fungi	10	430	100	9	380	100	9	380	100
Hyphal Fragment	-	-	-	1*	10*	-	-	-	-
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)	-	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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Project: 021453

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

Lab Sample Number:	932205778-0007			932205778-0008			932205778-0009		
Client Sample ID:	HES1016M007			HES1016M008			HES1016M009		
Volume (L):	75			75			75		
Sample Location:	Hall 1-031			1-038			1-042		
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	8	400	80	2	90	69.2	9	400	90.9
Basidiospores	3	100	20	1	40	30.8	1	40	9.1
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Total Fungi	11	500	100	3	130	100	10	440	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)	-	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
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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:	932205778-0010			932205778-0021			932205778-0022		
Client Sample ID:	HES1016M010			HES1016M021			HES1016M022		
Volume (L):	75			75			75		
Sample Location:	1-069			073			Hall 1-83A		
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*	10*	100	-	-	-
Aspergillus/Penicillium	4	200	83.3	-	-	-	-	-	-
Basidiospores	1	40	16.7	-	-	-	1	40	100
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Total Fungi	5	240	100	1	10	100	1	40	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
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)	-	1	-	-	1	-	-	1	-

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

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Lab Sample Number:	932205778-0023			932205778-0024			932205778-0025		
Client Sample ID:	HES1016M023			HES1016M024			HES1016M025		
Volume (L):	75			75			75		
Sample Location:	1-081			092			047		
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	-	-	-	-	-	-	-	-	-
Basidiospores	-	-	-	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	1	40	100	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	-	-	-
Total Fungi	-	None Detect	-	1	40	100	-	None Detect	-
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)	-	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

Initial report from: 10/17/2022 12:07 PM

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EMSL Order: 932205778

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:	932205778-0026			932205778-0027			932205778-0028		
Client Sample ID:	HES1016M026			HES1016M027			HES1016M028		
Volume (L):	75			75			75		
Sample Location:	026			1-066			Main 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	-	-	-	-	-	-	2	90	12.9
Aspergillus/Penicillium	3	100	43.5	2	90	47.4	6	300	42.9
Basidiospores	1	40	17.4	3	100	52.6	4	200	28.6
Bipolaris++	-	-	-	-	-	-	1*	10*	1.4
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	2	90	12.9
Curvularia	2	90	39.1	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	1*	10*	1.4
Total Fungi	6	230	100	5	190	100	16	700	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
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	-	-	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) 366-0852
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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:	932205778-0029 HES1016BG001 75 Outdoors			932205778-0030 HES1016BG002 75 Outdoors			932205778-0031 HES1016FB001 NA		
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	0.2	3*	40*	0.2	-	-	-
Ascospores	38	1700	8.3	39	1700	7.5	-	-	-
Aspergillus/Penicillium	33	1500	7.3	27	1200	5.3	-	-	-
Basidiospores	286	12600	61.6	311	13700	60.1	-	-	-
Bipolaris++	1*	10*	0	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	90	4000	19.6	128	5660	24.8	-	-	-
Curvularia	2	90	0.4	2*	30*	0.1	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	1	40	0.2	-	-	-	-	-	-
Ganoderma	2	90	0.4	-	-	-	-	-	-
Myxomycetes++	1	40	0.2	1	40	0.2	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	1	40	0.2	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora++	7	300	1.5	8	400	1.8	-	-	-
Nigrospora	1*	10*	0	-	-	-	-	-	-
Pestalotia++	-	-	-	1*	10*	0	-	-	-
Total Fungi	464	20460	100	520	22780	100	-	No Trace	-
Hyphal Fragment	-	-	-	3	100	-	-	-	-
Insect Fragment	-	-	-	2	90	-	-	-	-
Pollen	-	-	-	2*	30*	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	0	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	0*	-
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.

Gerald Iannuzzi, Laboratory Manager
or other Approved Signatory

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Customer ID: CTEH99

Customer PO:

Project ID:

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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:	932205778-0011			932205778-0012			932205778-0013		
Client Sample ID:	HES1016M011			HES1016M012			HES1016M013		
Volume (L):	75			75			75		
Sample Location:	1-264			253			219		
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	3	100	71.4	6	200	71.4	13	530	58.2
Basidiospores	1	40	28.6	1	40	14.3	2	80	8.8
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	3*	40*	14.3	8	300	33
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	4	140	100	10	280	100	23	910	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	1*	10*	-	-	-	-
Analyt. Sensitivity 600x	-	41	-	-	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.

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
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:	932205778-0014			932205778-0015			932205778-0016		
Client Sample ID:	HES1016M014			HES1016M015			HES1016M016		
Volume (L):	75			75			75		
Sample Location:	Hall 206			223			Hall 1-224		
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	10	410	91.1	9	400	80	2	80	19
Basidiospores	1	40	8.9	3	100	20	1	40	9.5
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	8	300	71.4
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	11	450	100	12	500	100	11	420	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	41	-	-	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.

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

Gerald Iannuzzi, Laboratory Manager
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Project: 021453

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

Lab Sample Number:	932205778-0017			932205778-0018			932205778-0019		
Client Sample ID:	HES1016M017			HES1016M018			HES1016M019		
Volume (L):	75			75			75		
Sample Location:	227			229			232		
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	80	16.7	1	40	6.5	-	-	-
Aspergillus/Penicillium	4	200	41.7	6	200	32.3	2	80	30.8
Basidiospores	-	-	-	2	80	12.9	2	80	30.8
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	4	200	41.7	8	300	48.4	3	100	38.5
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	10	480	100	17	620	100	7	260	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	41	-	-	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.

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 12:07 PM

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



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

EMSL Order: 932205778
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:	932205778-0020								
Client Sample ID:	HES1016M020								
Volume (L):	75								
Sample Location:	235								
Spore Types	Raw Count	Count/m³	% of Total						
Alternaria (Ulocladium)	-	-	-						
Ascospores	-	-	-						
Aspergillus/Penicillium	18	740	71.2						
Basidiospores	-	-	-						
Bipolaris++	-	-	-						
Chaetomium++	-	-	-						
Cladosporium	8	300	28.8						
Curvularia	-	-	-						
Epicoccum	-	-	-						
Fusarium++	-	-	-						
Ganoderma	-	-	-						
Myxomycetes++	-	-	-						
Pithomyces++	-	-	-						
Rust	-	-	-						
Scopulariopsis/Microascus	-	-	-						
Stachybotrys/Memnoniella	-	-	-						
Unidentifiable Spores	-	-	-						
Zygomycetes	-	-	-						
Total Fungi	26	1040	100						
Hyphal Fragment	-	-	-						
Insect Fragment	-	-	-						
Pollen	-	-	-						
Analyt. Sensitivity 600x	-	41	-						
Analyt. Sensitivity 300x	-	13*	-						
Skin Fragments (1-4)	-	1	-						
Fibrous Particulate (1-4)	-	1	-						
Background (1-5)	-	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.

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