Treadway, David

From: Treadway, David
Sent: Friday, August 21, 2020 9:14 AM
To: Gray, Adam; Bisch, Kathleen; Ramsey, Irma; Jones, Stacie
Cc: Barr, Shawn; Hughes, Jason; Cashman, Jinger
Subject: Limited Mold Assessment Rm 414

Mr. Gray,

Good morning. On Friday 08/14, Ensolum LLC conducted a limited mold assessment in Room 414 per a campus request. It is typically assumed that indoor spore levels in an area with filtered or air conditioned air, and activity levels associated with schools, average below the outdoor levels. Data from the airborne fungi sampling indicated that the total indoor concentration of mold/fungi in Room 414, was **9.4%** of the outdoor levels. Utilizing this theory, the indoor concentrations were well within the acceptable guidelines for areas with filtered and air conditioned air. Please let me know if you have any questions or other concerns related to the indoor air quality at your campus.

Sincerely,
David Treadway
Environmental Compliance/IAQ
Lewisville ISD

ENSOLUM

August 24, 2020

Lewisville Independent School District
340 Lake Haven
Lewisville, Texas 75057
Attn: Mr. David Treadway

Re:
Limited Mold Assessment
Vickery Elementary School
Room 414
3301 Wager Road
Flower Mound, Texas
Ensolum Project No. 01A.1288.099

Ensolum, LLC (Ensolum) was retained to perform limited mold assessment services within classroom 414 of Vickery Elementary School located at 3301 Wager Road in Flower Mound, Texas. Enclosed is the report, including analytical data.

Ensolum appreciates this opportunity to be of service and looks forward to our continued work together. Please contact the undersigned with any questions or concerns you may have.

Sincerely,

Nolan R. Domain
Mold Assessment Consultant
MAC1479 EXP: 11/09/2021

Darren G. Bowden
Principal
MAC0321 EXP: 2/15/2020

1.0 INTRODUCTION

Ensolum was retained by Mr. David Treadway, LISD, to complete a Limited Mold Assessment within classroom 414 of Vickery Elementary School located at 3301 Wager Road in Flower Mound, Texas. The purpose of this investigation was to determine if elevated concentrations of airborne fungal spores and structures were present within the above-referenced areas.

Mr. Nolan Domain completed the on-site investigation on August 14, 2020. The Limited Mold Assessment was performed in response to a complaint of possible indoor air quality issues within specific areas.

2.0 PROCEDURE

Ensolum visually inspected accessible areas of classroom 140. No Visible water damage or odors were observed in the following locations:

VISIBLE WATER DAMAGE		
LOCATION	DATE	EXPLANATION
Classroom 414	8-14-2020	N/A

Following the inspection of potential water-damaged building materials, Ensolum conducted a moisture investigation in the identified areas to determine if nonvisible water-damaged materials and other building materials within the investigation area were present. The moisture investigation was completed with a GE Protimeter BLD5364 moisture meter on accessible porous and semi-porous building materials in each area of concern. At the time of investigation, monitored building materials did not exhibit elevated moisture concentrations in comparison with similar and non-affected building materials in the structure and standard scientific guidelines.

Representative Relative Humidity readings were collected and recorded using an Extech Instruments Humidity / Temperature Pen. Measurements recorded during the investigation are listed in the chart below:

TEMPERATURE, RELATIVE HUMIDITY & SPECIFIC HUMIDITY				
LOCATION	DATE	Temperature: F	Relative Humidity	Specific Humidity
Exterior, Front of School	8-14-2020	88.3	48.2	95
Classroom 414	8-14-2020	71.7	60.7	71
Exterior, Outside 4th Grade Wing	8-14-2020	92.8	44.4	102

Area air samples were collected with Allergenco-D spore trap cassettes and analyzed for airborne fungal spores and structures. Samples were collected at a rate of 15 liters per minute. Indoor air sample(s) were collected for a five (5) minute period of time (75 liters) at a height of approximately five (5) feet above finished floor (AFF). Outdoor air samples were collected for a five (5) minutes period of time (75 liters) at a height of approximately five (5) feet above level ground. American Conference of Governmental Industrial Hygienists (ACGIH) guidelines were followed for the sample collection. Fungal air samples were collected in the following areas:

SPORE TRAP LOCATIONS	
SAMPLE NUMBER	LOCATION
S/N = 4133655	Exterior, Front of School
S/N = 4133656	Classroom 414
S/N = 4133667	Exterior, Outside 4th Grade Wing

3.0 RESULTS

Currently, there are no regulatory standards for airborne fungal contamination. Therefore, results of the fungal analysis are compared against scientific guidelines. Bioaerosol samples are evaluated by comparing the indoor samples against the outdoor sample. The same types of fungi should be found in both the indoor and outdoor samples.

Should higher fungal concentrations occur in the indoor sample(s) or complaint areas, this generally indicates there is a source of fungal growth in the area. The types of fungi

are also evaluated-the same types/genus of fungi should be present in both the indoor/complaint and outdoor/non-complaint samples.

The results of the fungal air samples collected were evaluated. Air testing performed using spore traps found that airborne mold spores in the room were considerably lower and were qualitatively similar to those measured outside of the building at the time the sampling was performed.

CONCLUSIONS

Based on ENSOLUM's limited assessment and the analytical results, it appears that the indoor air quality, as it relates to airborne fungi, was within recommended guidelines on this day. The specific humidity should be lowered to below 60.

APPENDIX A

ANALYTICAL DATA

IAQ Mold Report

Summary

Moody Labs
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Ensolum, LLC
Project : Vickery ES - Room 414
Project # : 01A.1288.099
Sample Type: Spore Trap, Non-cultured
Test Method: Mold: ASTM D7391-20 - Standard Profile

Lab Job No. : 20F-08425
Report Date : 08/18/2020
Sample Date: 08/14/2020
Spore Trap Type: Allergenco D

On 8/17/2020, three (3) samples were submitted by Nolan Domain of Ensolum, LLC (located at 2351 W. Northwest Hwy Suite #1203, Dallas, TX 75220) for Spore Trap, Non-cultured mold analysis. This report consists of three sections; a summary section, a data detail section, and an analytical notes section.

Sample Number	Volume (liters)	Sample Description	Identification	Concentration spores/cubic meter	
4133655	75	Outdoor Front * See Analytical Notes report for further details	Cladosporium	4000	68%
			Basidiospores	507	9%
			Aspergillus / Penicillium	453	8%
			Ascospores	347	6%
			Myxomycete / Periconia / Rust / Smut	133	2%
			Hyphal / Spore Fragments - Dematiaceous	120	2%
			Alternaria	107	2%
			Ganoderma	40	<1%
			Coprinus group	27	<1%
			Chaetomium	27	<1%
			Curvularia	27	<1%
			Drechslera / Bipolaris / Helminthosporum / Exserohilum group	27	<1%
			Helicomyces	27	<1%
			Hyphal / Spore Fragments - Hyaline	27	<1%
			Fusicladium	13	<1%
			Nigrospora	13	<1%
			Cercospora / Pseudocercospora	13	<1%
			Epicoccum	13	<1%
			Total:	5921	100%

IAQ Mold Report

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Sample Number	Volume (liters)	Sample Description	Identification	Concentration spores/cubic meter	
4133656	75	Room 414	Aspergillus / Penicillium	200	36%
			Basidiospores	160	29%
			Cladosporium	107	19%
			Ascospores	27	5%
			Hyphal / Spore Fragments - Dematiaceous	13	2%
			Coprinus group	13	2%
			Epicoccum	13	2%
			Curvularia	13	2%
			Chaetomium	13	2%
			Total:	559	100%

IAQ Mold Report

Summary

Moody Labs
2051 Valley View Lane
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Client : Ensolum, LLC
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Sample Number	Volume (liters)	Sample Description	Identification	Concentration spores/cubic meter	
4133657	75	Outdoor 4th Grade Wing	Cladosporium	1306	36%
			Basidiospores	480	13%
			Ascospores	440	12%
			Aspergillus / Penicillium	347	10%
			Hyphal / Spore Fragments - Dematiaceous	187	5%
			Alternaria	173	5%
			Diatrypaceae	107	3%
			Myxomycete / Periconia / Rust / Smut	93	3%
			Coprinus group	93	3%
			Fusarium	80	2%
			Cercospora / Pseudocercospora	80	2%
			Curvularia	40	1%
			Pithomyces	40	1%
			Hyphal / Spore Fragments - Hyaline	40	1%
			Drechslera / Bipolaris / Helminthosporum / Exserohilum group	27	<1%
			Epicoccum	27	<1%
			Ganoderma	13	<1%
			Chaetomium	13	<1%
			Nigrospora	13	<1%
			Spegazzinia	13	<1%
			Total:	3612	100%

Analyst(s): Christine Sauri

Lab Director : Heather Lopez — Approved Signatory : Heather Lopez

Lab Director : Bruce Crabb — Approved Signatory : Bruce Crabb

Thank you for choosing Moody Labs

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IAQ Mold Report

Data Detail

Moody Labs
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Ensolum, LLC
Project : Vickery ES - Room 414
Project # : 01A.1288.099
Sample Type: Spore Trap, Non-cultured
Test Method: Mold: ASTM D7391-20 - Standard Profile

Lab Job No. : 20F-08425
Report Date : 08/18/2020
Sample Date: 08/14/2020
Spore Trap Type: Allergenco D

This report consists of three sections; a summary section, a data detail section, and an analytical notes section. Results may not be reported except in full.

Sample ID:	4133655					4133656					4133657				
Location:	Outdoor Front					Room 414					Outdoor 4th Grade Wing				
Media Expires On:	Jul 2021					Jul 2021					Jul 2021				
Notes Included:	See Analytical Notes														
Volume:	75					75					75				
	raw ct	RL	spores/m³	%total	spores/m³ SF	raw ct	RL	spores/m³	%total	spores/m³ SF	raw ct	RL	spores/m³	%total	spores/m³ SF
Alternaria	8	13	107	2%	100						13	13	173	5%	170
Ascospores	26	13	347	6%	350	2	13	27	5%	30	33	13	440	12%	440
Aspergillus / Penicillium	34	13	453	8%	450	15	13	200	36%	200	26	13	347	10%	350
Basidiospores	38	13	507	9%	510	12	13	160	29%	160	36	13	480	13%	480
Cercospora / Pseudocercospora	1	13	13	<1%	10						6	13	80	2%	80
Chaetomium	2	13	27	<1%	30	1	13	13	2%	10	1	13	13	<1%	10
Cladosporium	100	40	4000	68%	4000	8	13	107	19%	100	98	13	1306	36%	1300
Coprinus group	2	13	27	<1%	30	1	13	13	2%	10	7	13	93	3%	90
Curvularia	2	13	27	<1%	30	1	13	13	2%	10	3	13	40	1%	40
Diatrypaceae											8	13	107	3%	100
Drechslera / Bipolaris / Helminthosp	2	13	27	<1%	30						2	13	27	<1%	30
Epicoccum	1	13	13	<1%	10	1	13	13	2%	10	2	13	27	<1%	30
Fusarium											6	13	80	2%	80
Fusicladium	1	13	13	<1%	10										
Ganoderma	3	13	40	<1%	40						1	13	13	<1%	10
Helicomyces	2	13	27	<1%	30										
Hyphal / Spore Fragments - Demati	9	13	120	2%	120	1	13	13	2%	10	14	13	187	5%	190
Hyphal / Spore Fragments - Hyaline	2	13	27	<1%	30						3	13	40	1%	40
Myxomycete / Periconia / Rust / Sm	10	13	133	2%	130						7	13	93	3%	90
Nigrospora	1	13	13	<1%	10						1	13	13	<1%	10
Pithomyces											3	13	40	1%	40
Spegazzinia											1	13	13	<1%	10
Stachybotrys															
TOTALS	244		5921	100%	5900	42		559	100%	560	271		3612	100%	3600
Analyst	Christine Sauri					Christine Sauri					Christine Sauri				
Analysis Date	8/18/2020					8/18/2020					8/18/2020				
Debris Rating	2					1					2				
Debris Composition															
Fibers	1/5					0/5					1/5				
Inorganic/Other	2/5					1/5					2/5				
Insect Parts	0/5					0/5					1/5				
Pollen	0/5					1/5					1/5				
Skin/Dander	1/5					1/5					1/5				

End of Data Detail section
20F-08425

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IAQ Mold Report

Analytical Notes

Moody Labs
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Ensolum, LLC
Project : Vickery ES - Room 414
Project # : 01A.1288.099
Sample Type: Spore Trap, Non-cultured
Test Method: Mold: ASTM D7391-20 - Standard Profile

Lab Job No. : 20F-08425
Report Date : 08/18/2020
Sample Date : 08/14/2020
Spore Trap Type: Allergenco D

This report consists of three sections; a summary section, a data detail section, and an analytical notes section. Results may not be reported except in full.

Samples Analyzed

Sample No	4133655 : Outdoor Front
Notes:	Please note: the minimum reporting limit for Cladosporium is 40 spores / cubic meter. When comparing results to other samples, use calculated results, not raw numbers.

Field Blanks

No discernable field blanks were submitted with this set of samples.

NOTE: All remaining samples suitable for analysis.

Methods

Method: ASTM D7391-20: Categorization and Quantification of Airborne Fungal Structures in an Inertial Impaction Sample by Optical Microscopy.
Samples are read at 100% unless noted. Partial readings may be employed when concentrations are elevated. Use final spore concentrations, not raw spore counts, for interpretation of results.

Calculation: Spores/cubic meter = (Raw spore count)*(RL)
Note: RL (Reporting Limit) is based upon 1 raw spore count.
Moody Labs recommends two significant figures for calculated values based on ASTM D7391-20.

This report must not be used by the customer to claim product certification, approval, or endorsement by AIHA, ISO, or any agency of the Federal Government.

Debris Rating Key

0 - No linear trace detected
1 - Trace particulate/debris
2 - Light particulate/debris
3 - Moderate particulate/debris
4 - Substantial particulate/debris
5 - Extensive particulate/debris
6 - Field blank
10 - Hold Sample
11 - Modified Analysis per Client Instructions

NOTE: Particulate/debris are defined as skin, fibers, pollen grains, insect parts, fungal and/or other non-fungal particles.

IAQ Mold Report

Analytical Notes

Moody Labs
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460
TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Ensolum, LLC
Project : Vickery ES - Room 414
Project # : 01A.1288.099
Sample Type: Spore Trap, Non-cultured
Test Method: Mold: ASTM D7391-20 - Standard Profile

Lab Job No. : 20F-08425
Report Date : 08/18/2020
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This report consists of three sections; a summary section, a data detail section, and an analytical notes section. Results may not be reported except in full.

Lab ID # 102577

End of Analytical Notes section
20F-08425

Moody Labs
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

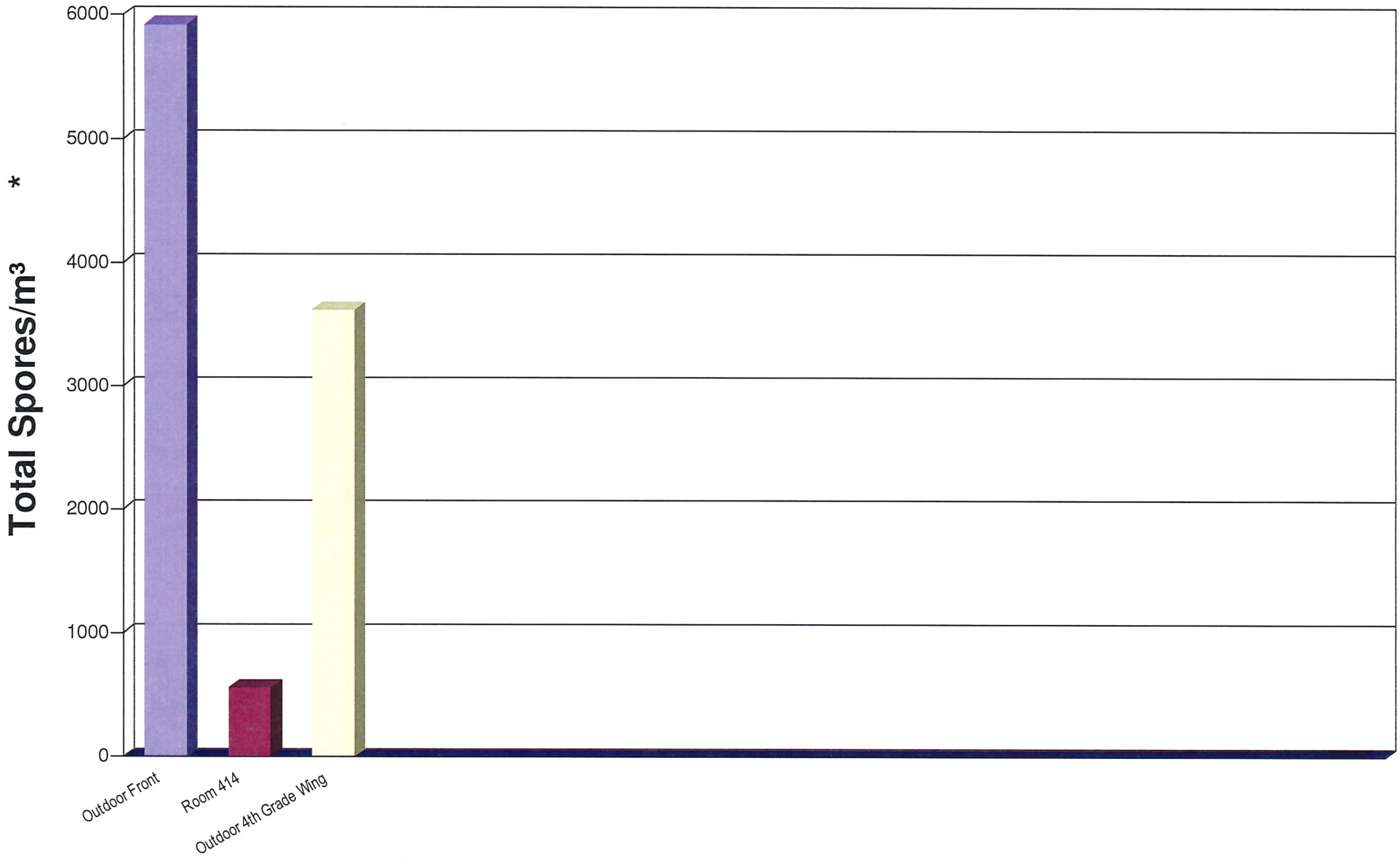
IAQ Mold Report

Supplemental Overview

TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Ensolum, LLC
Project : Vickery ES - Room 414
Project # : 01A.1288.099

Lab Job No. 20F-08425
Report Date 08/18/2020
Sample Date : 08/14/2020



Moody Labs
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

IAQ Mold Report

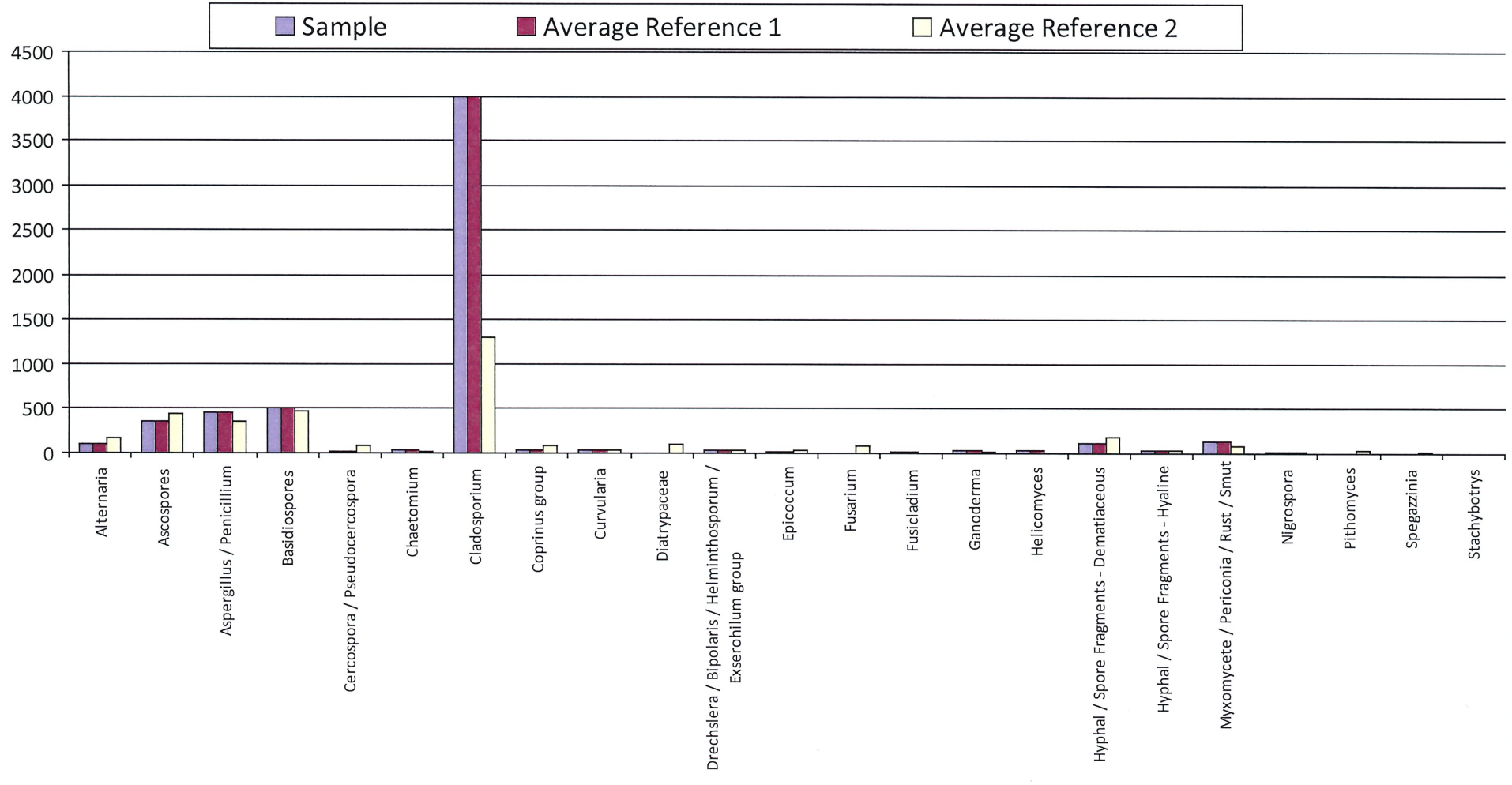
Supplemental Overview

TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Ensolum, LLC
Project : Vickery ES - Room 414
Project # : 01A.1288.099

Outdoor Front

Lab Job No. 20F-08425
Report Date 08/18/2020
Sample Date : 08/14/2020



Average Reference 1 = Outdoor Front

Average Reference 2 = Outdoor 4th Grade Wing

Moody Labs
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

IAQ Mold Report

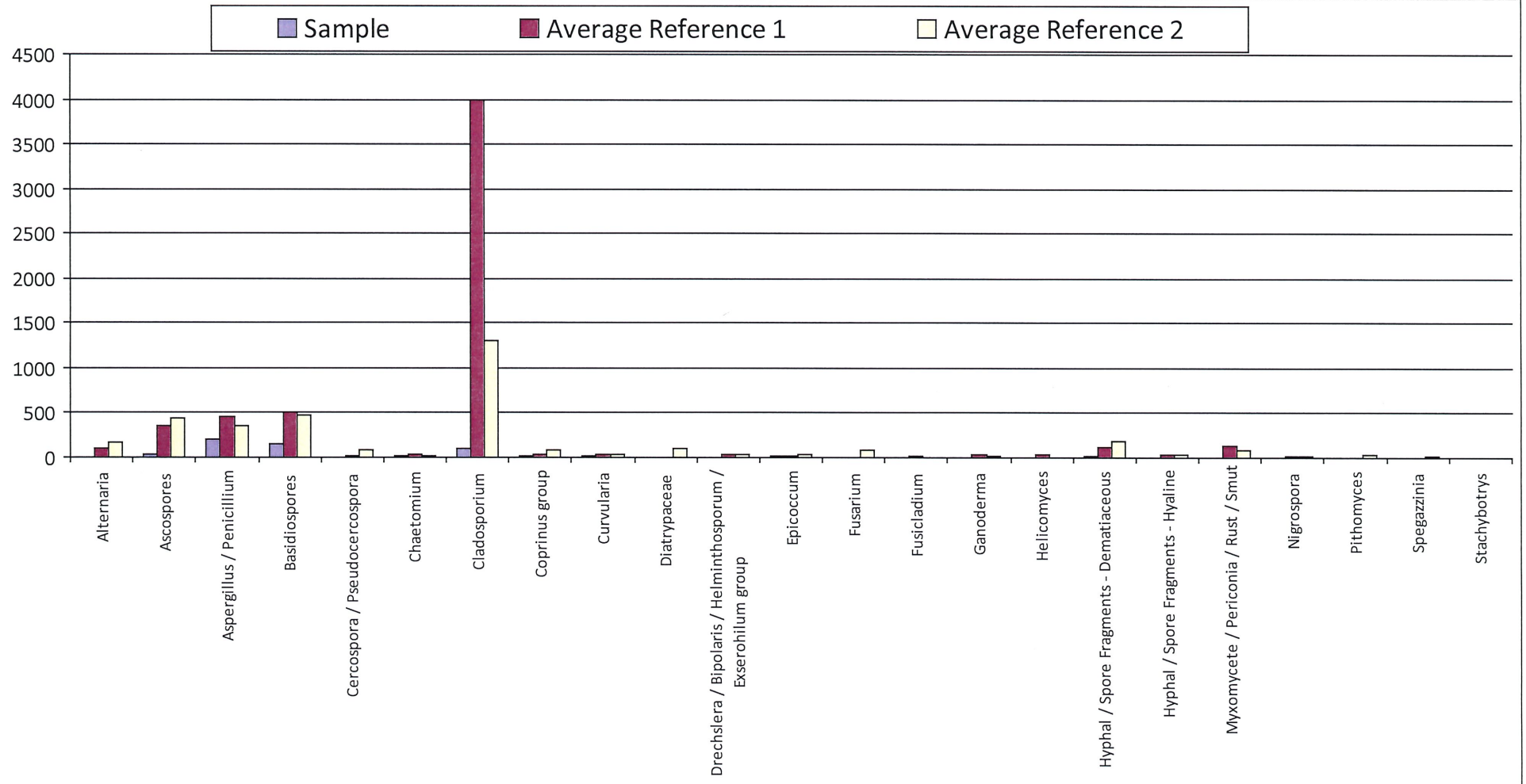
Supplemental Overview

TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Ensolum, LLC
Project : Vickery ES - Room 414
Project # : 01A.1288.099

Room 414

Lab Job No. 20F-08425
Report Date 08/18/2020
Sample Date : 08/14/2020



Average Reference 1 = Outdoor Front

Average Reference 2 = Outdoor 4th Grade Wing

Moody Labs
2051 Valley View Lane
Farmers Branch, TX 75234 Phone: (972) 241-8460

IAQ Mold Report

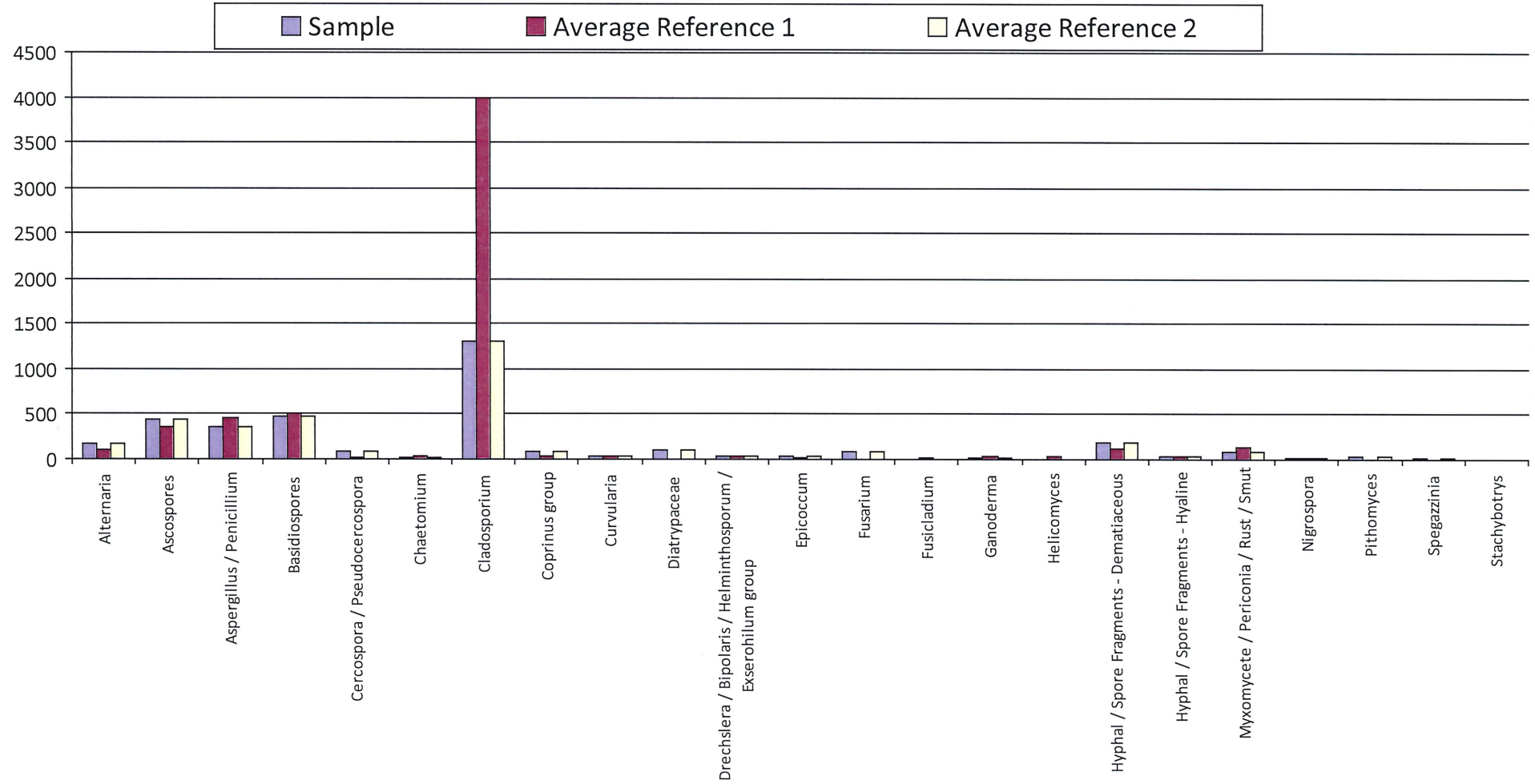
Supplemental Overview

TDLR License No.: LAB0117
AIHA EMPAT ID: 102577

Client : Ensolum, LLC
Project : Vickery ES - Room 414
Project # : 01A.1288.099

Outdoor 4th Grade Wing

Lab Job No. 20F-08425
Report Date 08/18/2020
Sample Date : 08/14/2020



Average Reference 1 = Outdoor Front

Average Reference 2 = Outdoor 4th Grade Wing

End of Supplemental Overview section
20F-08425

APPENDIX B

DEFINITIONS AND LIMITATIONS

ENSOLUM

Mold Services Definitions & Limitations

Ensolum performed services in accordance with generally accepted practices of the profession undertaken in similar services at the same time and in the same geographical area. No other warranties, express or implied, apply to the services hereunder or the final report.

Ensolum's services and any report have been prepared on behalf of and for the exclusive use of the Client solely for its use and reliance in assessing the presence of mold in the Investigation Areas of the site. The Client was the only party to which Ensolum explained the risks and limitations of the services and was solely involved in shaping the scope of services. Accordingly, reliance on this report by any other party may involve assumptions leading to an unintended interpretation of findings and opinions. With the consent of the Client, Ensolum may offer reliance to third parties or contract with other parties to develop findings and opinions related to such party's unique risk management concerns. Notwithstanding the foregoing, reliance by any and all third parties upon this deliverable, Ensolum's services or any subsequent report shall be limited in the aggregate to the fair market value of the services provided by Ensolum.

"Limited Mold Assessment". This deliverable uses the term "Limited Mold Assessment" to denote that Ensolum's mold assessment services are limited: (i) to certain portions of the building structure (e.g., the Investigation Areas), by non-destructive sampling methodologies, and/or by access limitations to building materials or components within the Investigation Area(s). In contrast to a "Limited Assessment" is a comprehensive assessment would involve destructive sampling methods with the assessment to be conducted throughout the entire building structure.

Time sensitive. One must keep in mind that mold assessments are essentially a "snap shot in time," and the results are only relevant at the time of site reconnaissance. Because mold, when biologically active, is a living organism, its presence is influenced and controlled by environmental conditions. Mold assessments, therefore, are "time sensitive" in that the presence and concentration of mold and similar organisms in building structures or in the air is directly influenced by environmental conditions (such as humidity, moisture, nutrients and substrates), whether natural or caused by man, which conditions may vary significantly over relatively short periods of time.

Methodologies. Currently, mold assessment methodologies and protocols in Texas are governed by persuasive guidelines (rather than promulgated federal/state or local regulations). Presently, there is no data that supports a threshold limit or dose-response relationship for exposure to mold aeroallergens, individual pathogens, opportunistic pathogens and/or mycotoxins. The Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety and Health (NIOSH) and other non-governmental associations, have not yet established permissible exposure limits (PELs), recommended exposure limits (RELs), or other limit values for fungi. Because no limit values presently exist. Ensolum will not and cannot represent that the site contains no harmful microbes, mold, fungi, or their metabolites, or other latent conditions beyond those identified by the limited scope of this mold assessment.

Findings limited. Findings in an LMA are limited due to the nature of the information obtained such as a visual reconnaissance of readily accessible areas of building structures, interview information, anecdotal information, and limited sampling data derived from one or more specific sampling events. Ensolum cannot warrant the accuracy of prior or subsequent information/data, reports and services performed by other firms at the Site. Ensolum assumes no responsibility or liability for errors in information or data provided by or through the client or third party sources. Ensolum's services are not to be construed as legal or medical interpretation or advice.

Moisture Intrusion Limitation. Ensolum performs mold assessment services and is not a moisture intrusion, HVAC, plumbing or building envelope specialist. However, during the course of conducting its mold assessment services, Ensolum will report observed areas of apparent moisture intrusion. Ensolum does not and will not investigate the cause or causes of such observed moisture intrusion. In the event apparent moisture intrusion is observed, Ensolum will recommend that the client contact a specialist (i.e., plumbing contractor, building envelope specialist, HVAC contractor, water intrusion specialist, etc.) to assist the client in determining the specific cause or causes of the moisture intrusion and remedial options.

Certificate of Mold Damage Remediation (CMDR). For mold remediation projects (above certain size thresholds), applicable Texas law (i.e., Texas Occupation Code Section 1958.54 and T.A.C. Section 295.397 (the Texas Mold Assessment and Remediation Rules), requires that a "Certificate of Mold Damage Remediation" be issued by the Mold Remediation Contractor upon successful completion of the project. This certificate must be provided to property owners no later than the 10th day after the date on which the mold remediation is completed at a property. The Mold Remediation Certificate issued by the Mold Remediation Contractor must include a certification by the Mold Assessor that the mold remediation project has been successfully completed in accordance with the mold remediation protocol.

Be advised that Ensolum's issuance of a CMDR upon successful completion of a Mold Remediation project does not mean, warrant or otherwise guarantee that mold will not be subsequently found in any portion of an Investigation Area or the Site. In the event that Ensolum is engaged to render services in connection with a mold remediation project, ENSOLUM will require Client to provide to Ensolum written documentation that all sources of moisture which contributed to the presence of mold in the Investigation Area have been fully remediated and corrected prior to achieving clearance.