

## Treadway, David

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**From:** Treadway, David  
**Sent:** Monday, April 19, 2021 1:12 PM  
**To:** Perry, Sean; Freeman, Jordin  
**Cc:** Whitlock, Michelle; Hughes, Jason; Cashman, Jinger  
**Subject:** Homestead Limited Mold Assessment Rm 313

Mr. Perry,

Good afternoon. This email is to follow up with the results of a limited mold assessment that was conducted in Rm 313 per a campus request. It is typically assumed that the indoor spore levels in an area with filtered or air conditioned air, and activity levels associated with schools, average below outdoor levels. Data from the airborne fungi sampling indicated that the total indoor concentration of mold/fungi in Room 313 was 1.6% of the outdoor levels. Utilizing this theory, the indoor concentrations were well within acceptable guidelines for areas with filtered or air conditioned air. If you have any questions, please let me know.

Sincerely,  
David Treadway  
Environmental Coordinator  
Lewisville ISD  
469-446-0140



# ENSOLUM

April 19, 2021

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

Re:

Limited Mold Assessment  
Homestead Elementary School – Room A313  
1830 East Branch Hollow  
Carrollton, TX  
Ensolum Project No. 01A.1288.131

Ensolum, LLC (Ensolum) was retained to perform limited mold assessment services within Room A313 of Homestead Elementary School located at 1830 East Branch Hollow in Carrollton, 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 Domain  
Mold Assessment Consultant  
MAC1479 EXP: 11/09/2021

Darren G. Bowden  
Principal  
MAC0321 EXP: 2/15/2022

## 1.0 INTRODUCTION

Ensolum was retained by Mr. David Treadway, LISD, to complete a Limited Mold Assessment within Room A313 of Homestead Elementary School located at 1830 East Branch Hollow in Carrollton, 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 March 17, 2021. 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 Room A313. No Visible water damage or odors were observed in the following locations:

VISIBLE WATER DAMAGE		
LOCATION	DATE	EXPLANATION
Room A313	3-17-2021	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
Outdoor by 300 Wing	3/17/2021	73.7°	60%	75.39%
Outdoor Front	3/17/2021	77.9°	54.5%	78.89%
Room A313	3/17/2021	72.6°	39.4%	47.39%

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
298566	Room A313
298575	Outdoor by 300 Wing
298570	Outdoor - Front

### 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 within room 2002 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 the day of the assessment.

## APPENDIX A

### ANALYTICAL DATA



# IAQ Mold Report

## Summary

TDLR License No.: LAB0117

AIHA EMPAT ID: 102577

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

Client : Ensolum, LLC

Lab Job No. : 21F-03618

Project : LISD, Homestead ES

Report Date : 03/22/2021

Project # : 01A1288131

Sample Date: 03/17/2021

Sample Type: Spore Trap, Non-cultured

Spore Trap Type: Allergenco D

Test Method: Mold: MLQ - 0112 - Standard Profile

Page 1 of 2

On 3/19/2021, 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
1	75	Room 313	Myxomycete / Periconia / Rust / Smut Cladosporium Aspergillus / Penicillium Hyphal / Spore Fragments - Dematiaceous  Total:	27 29% 27 29% 27 29% 13 14%  94 100%
2	75	Outdoor 300 Wing * See Analytical Notes report for further details	Cladosporium Aspergillus / Penicillium Basidiospores Ascospores Myxomycete / Periconia / Rust / Smut Coprinus group Alternaria Hyphal / Spore Fragments - Dematiaceous Epicoccum Agaricales group Oidium / Peronospora Nigrospora Stachybotrys Torula  Total:	3200 66% 467 10% 333 7% 307 6% 133 3% 80 2% 80 2% 67 1% 40 <1% 27 <1% 27 <1% 27 <1% 27 <1% 13 <1%  4828 100%



# IAQ Mold Report

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Sample Number	Volume (liters)	Sample Description	Identification	Concentration spores/cubic meter
3	75	Outdoor Front * See Analytical Notes report for further details	Cladosporium Basidiospores Ascospores Alternaria Acremonium / Verticillium Hyphal / Spore Fragments - Dematiaceous Coprinus group Epicoccum Aspergillus / Penicillium Oidium / Peronospora Stachybotrys Myxomycete / Periconia / Rust / Smut Torula Chaetomium  Total:	4578 79% 400 7% 253 4% 187 3% 67 1% 53 <1% 53 <1% 40 <1% 40 <1% 27 <1% 27 <1% 13 <1% 13 <1% 13 <1%  5764 100%

This report shall not be reproduced except in full, without approval of the laboratory. Data contained in this test report relates only to the samples tested. This report does not express or imply interpretation of the results contained herein. Interpretation should be made by a qualified professional. Moody Labs assumes no responsibility for the manner in which these samples were collected or handled prior to being received at this laboratory. Volume, area, and/or weight is provided by the customer. Moody Labs assumes no responsibility for the qualifications of personnel performing sampling and/or interpretations of this data.

Analyst(s): Christine Sauri

Lab Director : Heather Lopez

Approved Signatory : \_\_\_\_\_

Lab Director : Bruce Crabb

Approved Signatory : \_\_\_\_\_

Thank you for choosing Moody Labs

SMLMS v13.57





# IAQ Mold Report

## Data Detail

TDLR License No.: LAB0117

AIHA EMPAT ID: 102577

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

**Client :** Ensolum, LLC

**Lab Job No. :** 21F-03618

**Project :** LISD, Homestead ES

**Report Date :** 03/22/2021

**Project # :** 01A1288131

**Sample Date:** 03/17/2021

**Sample Type:** Spore Trap, Non-cultured

**Spore Trap Type:** Allergenco D

**Test Method:** Mold: MLQ - 0112 - Standard Profile

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:	1					2					3				
Location:	Room 313					Outdoor 300 Wing					Outdoor Front				
Media Expires On:	Aug 2021					Aug 2021					Aug 2021				
Notes Included:						See Analytical Notes					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
Acremonium / Verticillium											5	13	67	1%	70
Agaricales group						2	13	27	<1%	30					
Alternaria						6	13	80	2%	80	14	13	187	3%	190
Ascospores						23	13	307	6%	310	19	13	253	4%	250
Aspergillus / Penicillium	2	13	27	29%	30	35	13	467	10%	470	3	13	40	<1%	40
Basidiospores						25	13	333	7%	330	30	13	400	7%	400
Chaetomium											1	13	13	<1%	10
Cladosporium	2	13	27	29%	30	104	31	3200	66%	3200	103	44	4578	79%	4600
Coprinus group						6	13	80	2%	80	4	13	53	<1%	50
Epicoccum						3	13	40	<1%	40	3	13	40	<1%	40
Hyphal / Spore Fragments - Demati	1	13	13	14%	10	5	13	67	1%	70	4	13	53	<1%	50
Hyphal / Spore Fragments - Hyaline															
Myxomycete / Periconia / Rust / Sm	2	13	27	29%	30	10	13	133	3%	130	1	13	13	<1%	10
Nigrospora						2	13	27	<1%	30					
Oidium / Peronospora						2	13	27	<1%	30	2	13	27	<1%	30
Stachybotrys						2	13	27	<1%	30	2	13	27	<1%	30
Torula						1	13	13	<1%	10	1	13	13	<1%	10
TOTALS	7		94	100%	94	226		4828	100%	4800	192		5764	100%	5800
Analyst	Christine Sauri					Christine Sauri					Christine Sauri				
Analysis Date	3/22/2021					3/22/2021					3/22/2021				
Debris Rating	2					3					3				
Debris Composition															
Fibers	1/5					1/5					1/5				
Inorganic/Other	2/5					3/5					3/5				
Insect Parts	0/5					0/5					1/5				
Pollen	0/5					0/5					2/5				
Skin/Dander	1/5					1/5					1/5				

End of Data Detail section  
21F-03618

SMLMS v13.57



## IAQ Mold Report

### Analytical Notes

TDLR License No.: LAB0117

AIHA EMPAT ID: 102577

2051 Valley View Lane

Farmers Branch, TX 75234 Phone: (972) 241-8460

**Client :** Ensolum, LLC

**Project :** LISD, Homestead ES

**Project # :** 01A1288131

**Sample Type:** Spore Trap, Non-cultured

**Test Method:** Mold: MLQ - 0112 - Standard Profile

**Lab Job No. :** 21F-03618

**Report Date :** 03/22/2021

**Sample Date :** 03/17/2021

**Spore Trap Type:** Allergenco D

Page 1 of 2

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** 2 : Outdoor 300 Wing

**Notes:** Please note: the minimum reporting limit for Cladosporium is 31 spores / cubic meter. When comparing results to other samples, use calculated results, not raw numbers.

**Sample No** 3 : Outdoor Front

**Notes:** Please note: the minimum reporting limit for Cladosporium is 44 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: Categorization and Quantification of Airborne Fungal Structures in an Inertial Impaction Sample by Optical Microscopy.

Samples are read at 100% under 400x magnification 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.

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

TDLR License No.: LAB0117

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**Client :** Ensolum, LLC

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**Project # :** 01A1288131

**Sample Type:** Spore Trap, Non-cultured

**Test Method:** Mold: MLQ - 0112 - Standard Profile

**Lab Job No. :** 21F-03618

**Report Date :** 03/22/2021

**Sample Date :** 03/17/2021

**Spore Trap Type:** Allergenco D

Page 2 of 2

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End of Analytical Notes section  
21F-03618

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

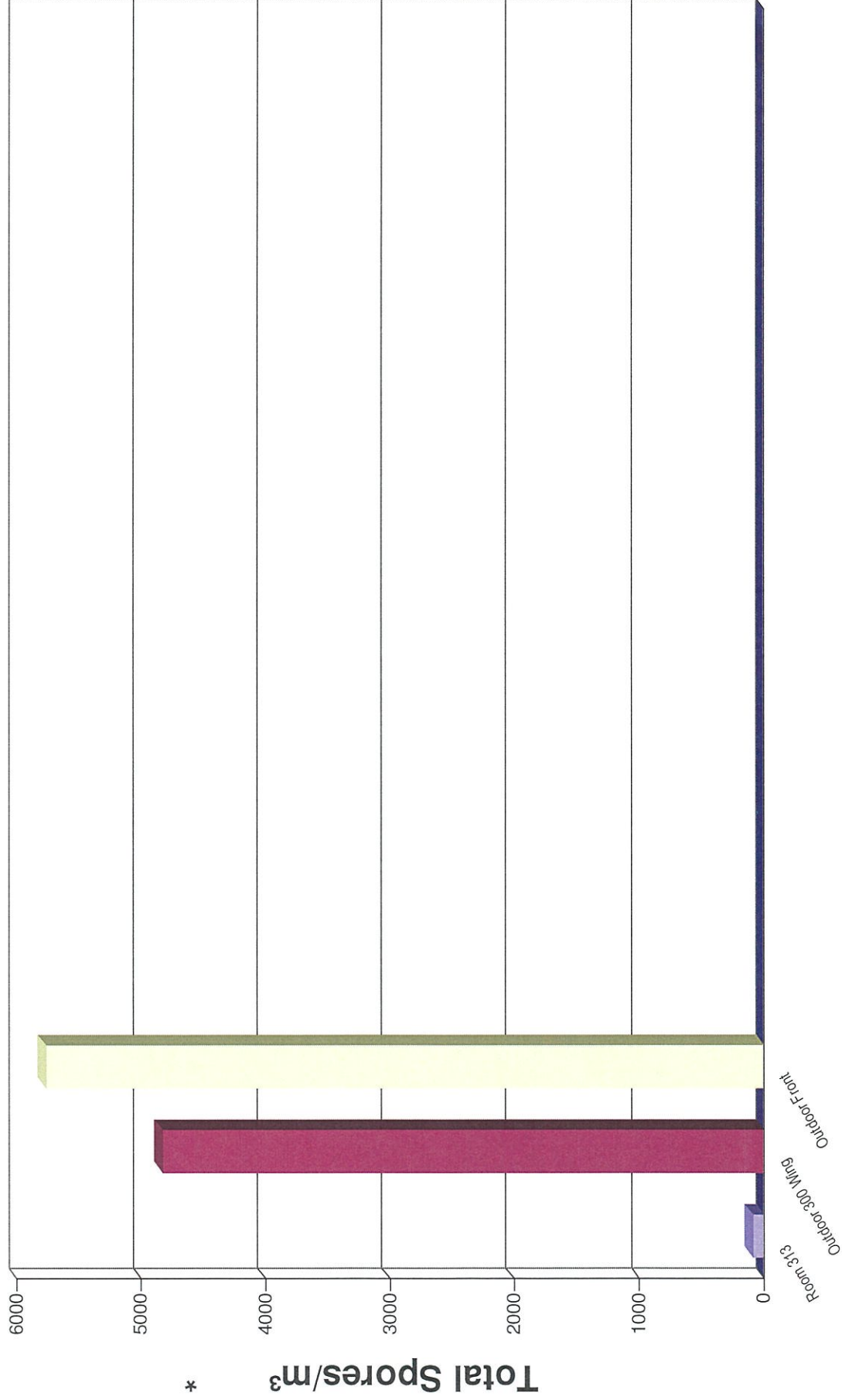
# IAQ Mold Report

## Supplemental Overview

TDLR License No.: LAB0117  
AIHA EMPAT ID: 102577

Client : Ensolum, LLC  
Project : LISD, Homestead ES  
Project # : 01A1288131

Lab Job No. 21F-03618  
Report Date 03/22/2021  
Sample Date : 03/17/2021





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

## IAQ Mold Report Supplemental Overview

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**Client :** Ensolum, LLC

**Project :** LISD, Homestead ES

**Project # :** 01A1288131

**Lab Job No.** 21F-03618

**Report Date** 03/22/2021

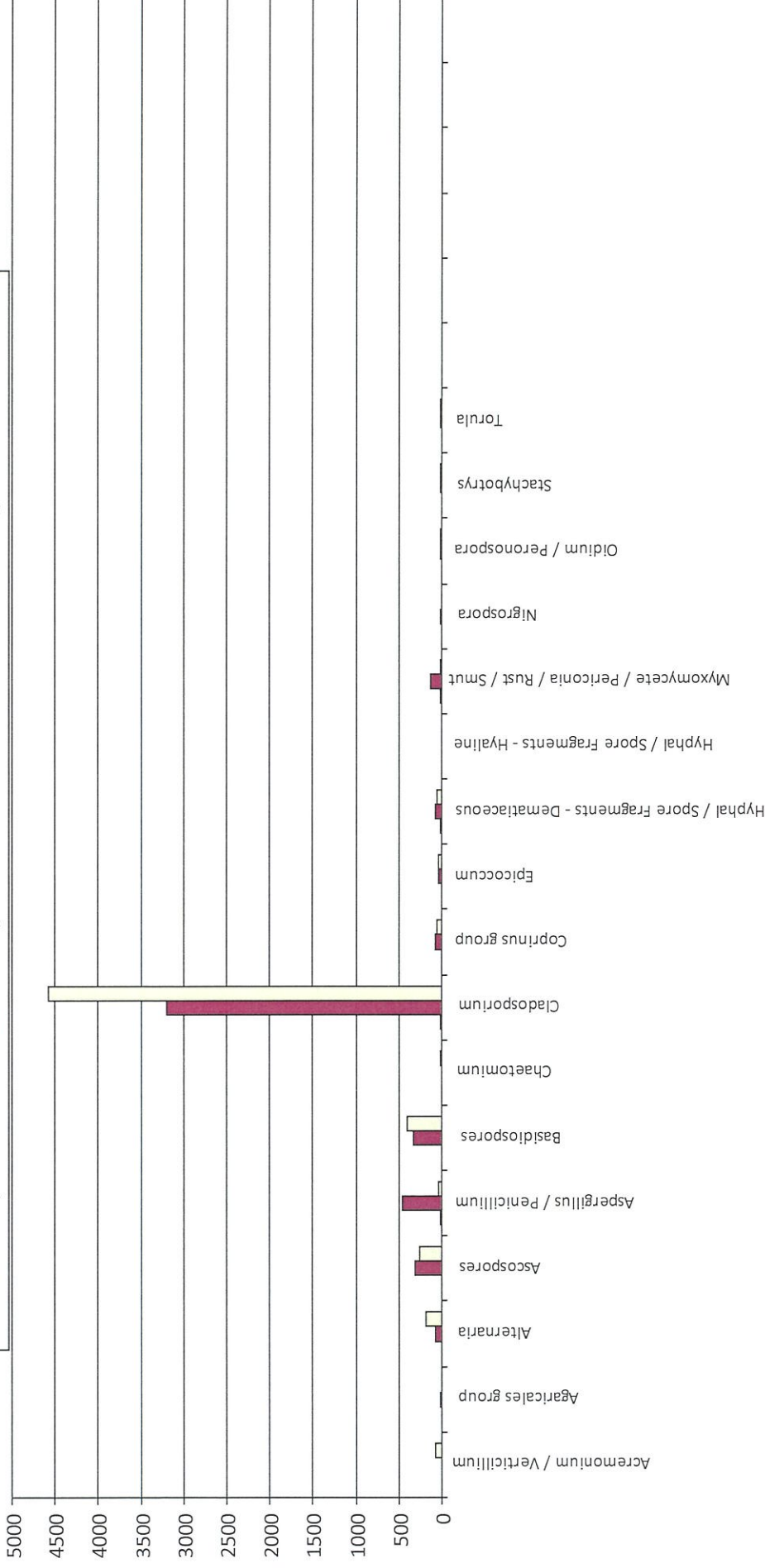
**Sample Date :** 03/17/2021

Room 313

■ Sample

■ Average Reference 1

□ Average Reference 2



Average Reference 1 = Outdoor 300 Wing

Average Reference 2 = Outdoor Front





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

## IAQ Mold Report Supplemental Overview

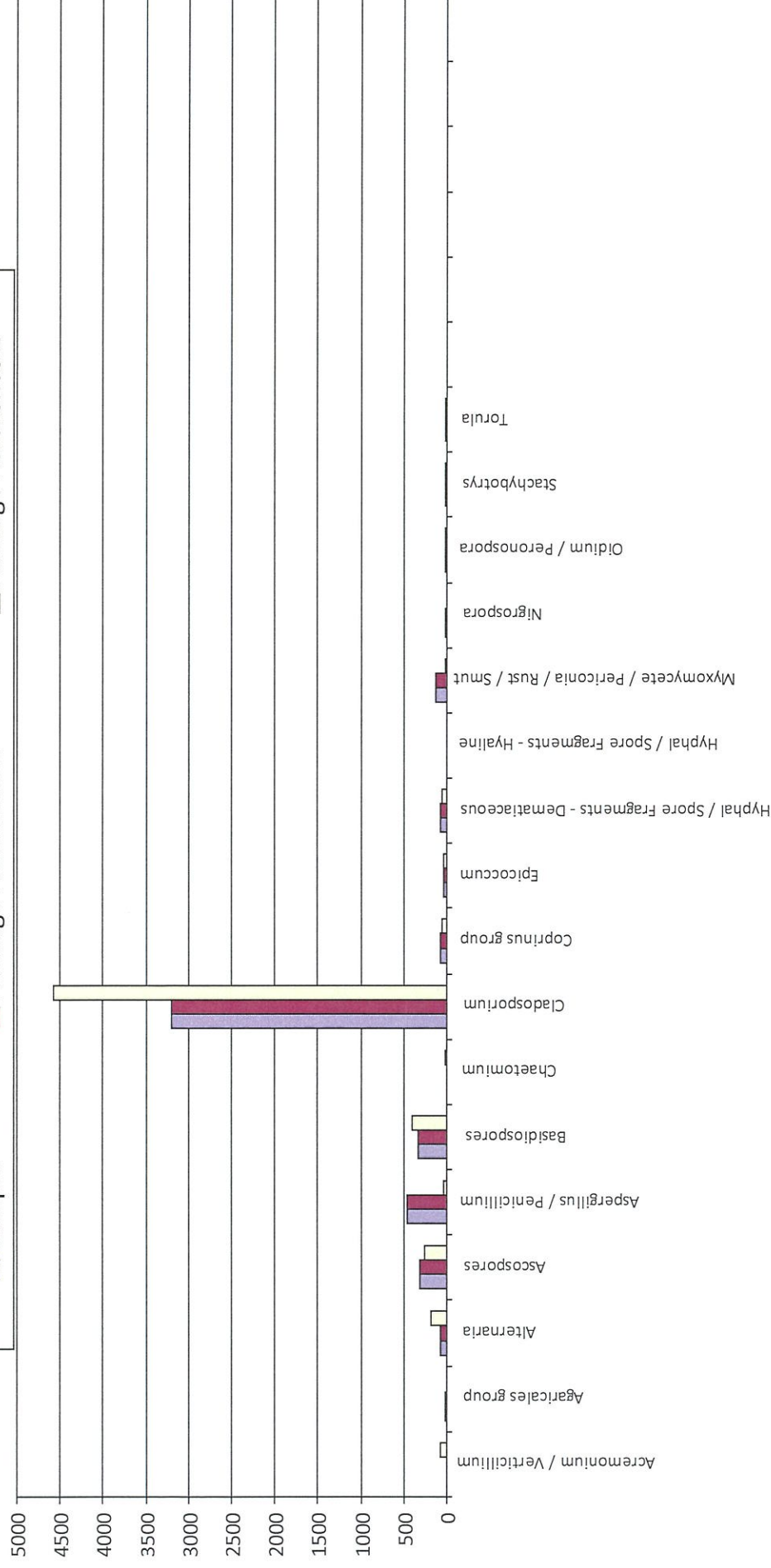
TDLR License No.: LAB0117  
AIHA EMPAT ID: 102577

**Client :** Ensolum, LLC  
**Project :** LUSD, Homestead ES  
**Project # :** 01A1288131

**Lab Job No.** 21F-03618  
**Report Date** 03/22/2021  
**Sample Date :** 03/17/2021

Outdoor 300 Wing

■ Sample      ■ Average Reference 1      □ Average Reference 2



Average Reference 1 = Outdoor 300 Wing

Average Reference 2 = Outdoor Front



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

# IAQ Mold Report

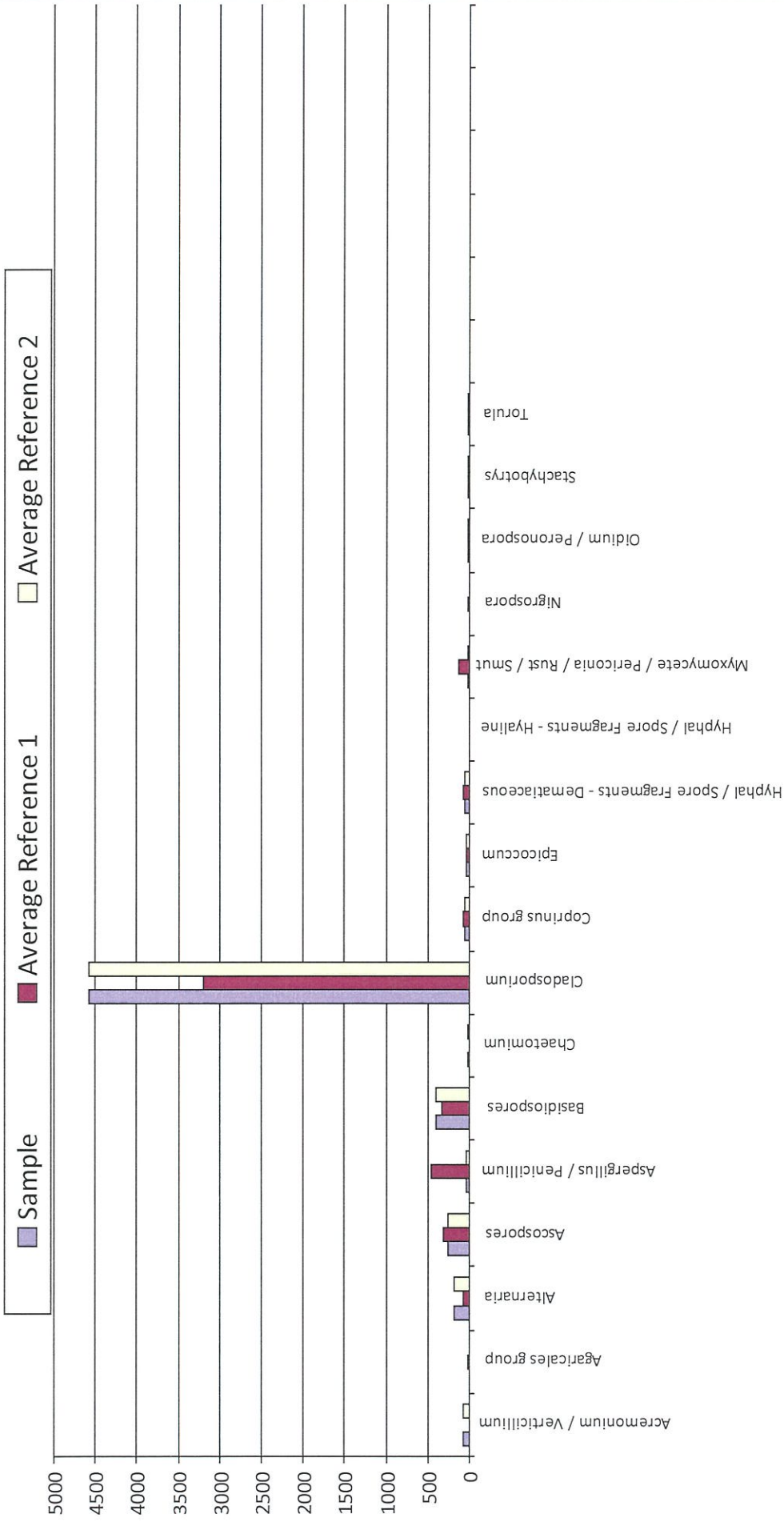
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**Project # :** 01A1288131

**Lab Job No.** 21F-03618  
**Report Date** 03/22/2021  
**Sample Date :** 03/17/2021

Outdoor Front



Average Reference 1 = Outdoor 300 Wing

Average Reference 2 = Outdoor Front

## 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 10<sup>th</sup> 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.