AEML, Inc.
Microbiology Laboratories

Swab Analytical Report

Prepared For: Brannon Hamby
Pure Maintenance of South Carolina
2202 Skyler Dr.
Mount Pleasant,SC 29466
(843) 400-3020

AEML Batch: 403764

Project/Site: Browning, James 400 Gozer Pl #unit 4422, Summerville, South Carolina, 29486

ACCREDITED
TESTING CERT #2572.01

Authorized for release by:
Joshua Krinsky
Technical Director

TEXAS
Department of
State Health
Services
License LAB#1020

AEML, Inc.
Microbiology Laboratories

Table of Contents

Client: Brannon Hamby
Pure Maintenance of South Carolina
2202 Skyler Dr.
Mount Pleasant,SC 29466
(843) 400-3020

AEML Batch: 403764

Project/Site: Browning, James 400 Gozer Pl #unit 4422, Summerville, South Carolina, 29486

AEML, Inc.
Microbiology Laboratories

Project Narrative

Client: Brannon Hamby
Pure Maintenance of South Carolina
2202 Skyler Dr.
Mount Pleasant,SC 29466
(843) 400-3020

AEML Batch: 403764

Project/Site: Browning, James 400 Gozer Pl #unit 4422, Summerville, South Carolina, 29486

Receipt

The sample(s) contained in this report were collected on October 20, 2022 and received by AEML, Inc. Microbiology Laboratories on October 27, 2022 . All samples were received in good condition unless otherwise noted in the results section of this report or on the accompanying Chain of Custody.

Sample Analysis

Analyses were performed in accordance to AEML, Inc.'s Standard Operating Procedures and Quality Assurance Program. No deviations were made to these procedures unless noted in the results section of this report. Any additional information that the laboratory believes relevant will be noted as Data Qualifiers accompanying the sample results.

Quality Assurance

AEML, Inc. has developed and implemented policies and procedures that adhere to the General Requirements for the Competence of Testing and Calibration Laboratories, ISO/IEC 17025:2017. These procedures have been reviewed by an independent outside organization and the laboratory has been accredited by the American Association for Laboratory Accreditation for Biological Testing (A2LA Testing Cert #2572.01). AEML, Inc. is also licensed by the Texas Department of State Health Services (Lab#1020). AEML, Inc. is an active participant in the AIHA EMPAT Proficiency Testing Program.

The laboratory is staffed by highly trained and experienced professionals. AEML, Inc. utilizes state of the art equipment that is of the most recent technology available for fungal spore identification and quantification. AEML, Inc. has the most up to date data systems available with capabilities to provide standard reports in hardcopy and electronic data deliverables.

AEML, Inc.
Microbiology Laboratories

Sample Summary

Client: Brannon Hamby
Pure Maintenance of South Carolina
2202 Skyler Dr.
Mount Pleasant,SC 29466
(843) 400-3020

AEML Batch: 403764

Project/Site: Browning, James 400 Gozer Pl #unit 4422, Summerville, South Carolina, 29486

Lab Sample ID	Client Sample ID	Media	Collected	Received
403764-01	HVAC	Swab	10/20/2022	10/27/2022
403764-02	Closet Supply	Swab	10/20/2022	10/27/2022
403764-03	Bedroom Supply	Swab	10/20/2022	10/27/2022

AEML, Inc.
Microbiology Laboratories

Detection Summary

Client: Brannon Hamby
Pure Maintenance of South Carolina
2202 Skyler Dr.
Mount Pleasant,SC 29466
(843) 400-3020

AEML Batch: 403764

Project/Site: Browning, James 400 Gozer Pl #unit 4422, Summerville, South Carolina, 29486

Lab Sample ID	Client Sample ID	Spore Type	Count/cm²
403764-02	Closet Supply	Cladosporium	508,680
		Hyphal Fragments	68,280
403764-03	Bedroom Supply	Cladosporium	1,507,200
		Hyphal Fragments	240,200

Brannon Hamby
Pure Maintenance of South Carolina
2202 Skyler Dr.
Mount Pleasant,SC 29466
(843) 400-3020

AEML, Inc.
601 E. Atlantic Blvd.
Pompano Beach, FL 33060
Phone: (954) 333-8149
Fax: (954) 333-8151
email: customerservice@aemlinc.com

Project: Browning, James 400 Gozer Pl #unit 4422, Summerville, South Carolina, 29486
Batch: 403764
Sampled: 10/20/2022
Received: 10/27/2022
Analysis Date: 10/27/2022
Report Date: 10/27/2022

AEML Test: S001 Swab Analysis

Sample ID:	403764-01*	403764-02*	403764-03
Client Sample ID:	HVAC	Closet Supply	Bedroom Supply
Area Swabbed (cm^2):	1	1	1
Media:	Swab	Swab	Swab
Sample Analysis:	Analyzed at 600X Magnification	Analyzed at 600X Magnification	Analyzed at 600X Magnification

Spore Types	Raw Count	Count/cm²	%	Raw Count	Count/cm²	%	Raw Count	Count/cm²	%
Alternaria	—	—	—	—	—	—	—	—	—
Arthrinium	—	—	—	—	—	—	—	—	—
Ascospores	—	—	—	—	—	—	—	—	—
Aspergillus/Penicillium-Like	—	—	—	—	—	—	—	—	—
Basidiospores	—	—	—	—	—	—	—	—	—
Bipolaris/Dreschlera	—	—	—	—	—	—	—	—	—
Botrytis	—	—	—	—	—	—	—	—	—
Chaetomium	—	—	—	—	—	—	—	—	—
Cladosporium	—	—	—	12,717	508,680	100	37,680	1,507,200	100
Curvularia	—	—	—	—	—	—	—	—	—
Epicoccum	—	—	—	—	—	—	—	—	—
Fusarium	—	—	—	—	—	—	—	—	—
Ganoderma	—	—	—	—	—	—	—	—	—
Memnoniella	—	—	—	—	—	—	—	—	—
Nigrospora	—	—	—	—	—	—	—	—	—
Oidium/Peronospora	—	—	—	—	—	—	—	—	—
Pithomyces	—	—	—	—	—	—	—	—	—
Rust	—	—	—	—	—	—	—	—	—
Smut/Myxomyces/Periconia	—	—	—	—	—	—	—	—	—
Stachybotrys	—	—	—	—	—	—	—	—	—
Torula	—	—	—	—	—	—	—	—	—
Ulocladium	—	—	—	—	—	—	—	—	—
Unidentified Spores	—	—	—	—	—	—	—	—	—
Total Spores	**0**	**0**		**12,717**	**508,680**		**37,680**	**1,507,200**	
Hyphal Fragments	—	—		1,707	68,280		6,005	240,200	
Detection Limit	80			471			471		

* Bacteria Present.

Joshua Krinsky
Technical Director

AEML, Inc.
Microbiology Laboratories

Definitions and Glossary

Definitions

Mold - A fungus that grows in the form of multicellular filaments called hyphae. Molds cause biodegradation of natural materials, which is necessary in nature but can become unwanted when it causes food spoilage or damage to property. Some diseases of animals and humans can be caused by certain molds. These diseases may result from allergic sensitivity to mold spores, from growth of pathogenic molds within the body, or from the effects of ingested or inhaled toxic compounds (mycotoxins) produced by molds.

Fungi - A Kingdom composed of eukaryotic organisms that include unicellular microorganisms such as molds, yeasts, smuts, and mushrooms. Fungi receive nutrients by absorbing dissolved molecules and are referred to as nature's decomposers.

Spores - Produced by molds and fungi as units of reproduction that have adapted for dispersal. Spores can disperse through the air, by insects, animals, or humans and remain dormant on a surface for years until favorable conditions for growth occur.

Mycotoxin - A toxic secondary metabolite produced by mold. The term 'mycotoxin' is usually reserved for the toxic chemical products produced by fungi that readily colonize crops. One mold species may produce many different mycotoxins, and the same mycotoxin may be produced by several species.

Glossary

Sample ID - A unique internal identification assigned to the sample by the laboratory for traceability of the sample.

Client Sample ID - An identification given to the sample and provided to the laboratory by the person who collected the sample. This is typically the location the sample was collected.

Area Swabbed - The size of the surface area sampled with the swab sampler. This is based on the area provided to the laboratory by the sampler and converted into square centimeters.

Media - The device used for collection of the sample.

Sample Analysis - The method of analysis used by the laboratory to analyze the sample. The use of a high level of magnification such as 600X magnification is necessary to see small details and provides the highest quality analysis.

Raw Count - Spore count present in the portion of the sample analyze by the laboratory.

Count/cm^2 - An extrapolated count of spores that would be present in a square centimeter of surface area. This calculation is based on the area swabbed and the raw count.

Definitions and Glossary

Glossary

Percent (%) - Percent composition of the sample. This is a breakdown of the percentage of the total spore count of the sample that each spore comprises.

Detection Limit - Also known as Method Detection Limit. This is the minimum number of spores that would need to be present in one square centimeter of the surface in order for one spore to be detected by this analysis. This calculation is based on the area swabbed and the portion of the sample analyzed by the laboratory.

Remediation

Remediation - The process correcting, or remedying, any issues in the building that were identified by a mold assessor. This may include cleaning or removing any contaminated material, as well as, identifying and correcting any conditions that may be favorable for mold growth.

AEML, Inc. makes no claims pertaining to the necessity of remediation. The results contained in this report should be used in conjunction with a physical inspection of the property to determine what, if any, actions are necessary.

AEML, Inc.
Microbiology Laboratories

Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Alternaria

Description	Characteristics
These are a common plant pathogen involved in the decomposition of plants. In the indoor environment they are found growing on a variety of substrates including sheetrock and other building materials. They are common allergens causing hay fever or hypersensitivity reactions.	

Arthrinium

Description	Characteristics
These are a plant pathogen found in soil and decomposing plant material. Not typically found growing indoors. One species has been determined to be an allergen.	

Ascospores

Description	Characteristics
These are a very large group of spores that are found everywhere in nature. They are commonly found outdoors and associated with rain and moisture. Some species grow well indoors on damp materials. Ascospores have allergenic potential, however, it is species dependent.	 

AEML, Inc.
Microbiology Laboratories

Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Aspergillus/Penicillium-Like

Description	Characteristics
These are two of the most common genera in the world. They can be found everywhere in nature, both indoors and outdoors. Indoors they can be found on water damaged wallpaper, carpet, and other organic materials. They can also grow well in conditions of high humidity. Many species are allergens and a common cause of respiratory irritation. Some species are human and animal pathogens and can cause infection.	

Basidiospores

Description	Characteristics
These are primarily comprised of mushrooms and shelf fungi. They are typically found outdoors. Occasionally they are found indoors growing on any organic matter causing dry rot. Some species can be an allergen to sensitive individuals.	

Bipolaris/Dreschlera

Description	Characteristics
These are a plant pathogen typically found outdoors on grasses, grains, and decaying food. Indoors they can be found on plants and building materials. They are an allergen that can affect the nose, skin, eyes and upper respiratory track.	

AEML, Inc.
Microbiology Laboratories

Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Botrytis	
Description	Characteristics
These are a plant pathogen typically found growing on vegetation particularly in temperate and subtropical climates. Indoors they can be found growing on plants. They are a potential allergen causing hay fever and asthma effects.	 

Chaetomium	
Description	Characteristics
These are typically found indoors on water damaged cellulose containing materials such as paper, sheetrock, and wallpaper. Not well studied but possible allergen with hay fever and asthma effects.	  

Cladosporium	
Description	Characteristics
One of the most common genera in both the indoor and outdoor environments. Indoors they grow well in damp environments and areas where condensation builds. They are often found on textiles, window sills, in bathrooms, and A/C systems. They are a common allergen when airborne.	

AEML, Inc.
Microbiology Laboratories

Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Curvularia

Description	Characteristics
Primarily found outdoors on plants and soil especially in subtropical and tropical environments. Indoors they grow on a variety of building materials. They are a common allergen causing hay fever, asthma, and allergic fungal sinusitis.	 

Epicoccum

Description	Characteristics
Outdoors they are found in the soil, air, and rotting vegetation. Indoors they grow well on a variety of building materials such as paper and textiles. They are a potential allergen with hay fever, asthma, and skin allergy effects.	

Fusarium

Description	Characteristics
Indoors they are typically found under very wet conditions. Some places they can be found are dust in carpet and mattresses, damp walls, wallpaper, and duct liner. They are a potential allergen causing hay fever and asthma effects.	  

AEML, Inc.
Microbiology Laboratories

Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Ganoderma	
Description	Characteristics
These are shelf mushrooms that are typically found growing outdoors on wood causing white rot, root rot, and stem rot. They are a possible allergen at high concentrations.	

Memnoniella	
Description	Characteristics
These are mycotoxin producing spores related to and often found in conjunction with Stachybotrys. These grow well on water damaged cellulose containing building materials such as sheetrock, paper, wallpaper, and textiles.	

Nigrospora	
Description	Characteristics
These are typically found on decaying plant material and soil and are usually not found growing indoors. They are a potential allergen causing hay fever and asthma effects.	

AEML, Inc.
Microbiology Laboratories

Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Oidium/Peronospora	
Description	Characteristics
These are plant pathogens that are common obligate parasites on leaves, stems, flowers, and fruits of higher living plants.	

Pithomyces	
Description	Characteristics
These are typically found on dead leaves and stems of plants. Rarely found growing indoors; however, they grow well on paper indoors given the right conditions.	

Rust	
Description	Characteristics
These are parasitic plant pathogens that grow on plants, grass, and trees. They are rarely found growing indoors since they require a living host, and therefore typically not found on cellulose containing building materials. They are a potential allergen causing hay fever and asthma effects.	

AEML, Inc.
Microbiology Laboratories

Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Smut/Myxomyces/Periconia	
Description	Characteristics
This is a grouping of several genera organized together in a general category that are mostly associated with living and decaying plants, wood, soil, grass, cereal crops, weeds, and flowering plants. These are rarely found growing indoors. They are a potential allergen causing hay fever and asthma effects.	 

Stachybotrys	
Description	Characteristics
These are typically found indoors growing on water damaged cellulose containing building materials such as sheetrock, paper, and ceiling tiles. They are often referred to as "toxic black mold." They have the ability to produce mycotoxins which may cause a burning sensation in the mouth, throat, and nasal passages. Chronic exposure has been known to cause headaches, diarrhea, memory loss, and brain damage.	 

Torula	
Description	Characteristics
These are typically found growing outdoors on leaves, roots, wood, and soil. Indoors they can be found growing on water damaged cellulose, paper, wicker, straw baskets and ceiling tiles. They are a potential allergen causing hay fever and asthma effects.	

AEML, Inc.
Microbiology Laboratories

Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Ulocladium	
Description	Characteristics
Requires very wet conditions and can commonly be found indoors in damp or wet areas such as bathrooms, kitchens, basements, and around windows. These grow well on cellulose containing materials such as paper and straw and on water damaged building material such as sheetrock. They are a common allergen causing hay fever and asthma effects.	

Unidentified Spores	
Description	Characteristics
This is a grouping of spores that are unable to be categorized due to a variety of reasons. They may be weathered, disfigured, or otherwise lacking the morphological structures necessary to identify the genus.	

Hyphal Fragments	
Description	Characteristics
These are branched filamentous structures with cell walls. Hyphae are somewhat analogous to stems or roots in plants whereas the spores would be analogous to the seeds. Large quantities present may indicate an active fungal colony or active fungal growth in the structure.	

AEML, Inc.
Microbiology Laboratories

Fungal Glossary

 **Typically found growing outdoors.**

 **Potential allergen.**

 **Considered water damage indicator.**

 **Potential to produce mycotoxins.**

Pollen	
Description	Characteristics
These are a fine to course powdery substance produced by the anthers of seed-bearing plants, trees, grasses, flowers, and weeds. They are an allergen that causes hay fever effects.	

AEML, Inc.
Microbiology Laboratories

References and Links

Environmental Protection Agency (EPA) - www.epa.gov/mold/

A Brief Guide to Mold, Moisture, and Your Home - www2.epa.gov/mold/brief-guide-mold-moisture-and-your-home

Should You Have the Air Ducts in Your Home Cleaned? - www2.epa.gov/indoor-air-quality-iaq/should-you-have-air-ducts-your-home-cleaned

Flood Cleanup - Avoiding Indoor Air Quality Problems - www2.epa.gov/indoor-air-quality-iaq/flood-cleanup-protect-indoor-air-quality

Center for Disease Control and Prevention (CDC) - www.cdc.gov/mold/

General Information - www.cdc.gov/mold/basics.htm

Cleanup and Remediation - www.cdc.gov/mold/cleanup.htm

Occupational Safety & Health Administration (OSHA) - www.osha.gov/SLTC/molds

American Academy of Allergy, Asthma & Immunology (AAAAI) - www.aaaai.org

Institute of Inspection, Cleaning and Restoration Certification (IICRC) - www.iicrc.org

Information and recommendations about mold can vary based on location and climate. More information can be found through your local state's and county's Indoor Air Quality programs. Links for your state's environmental agencies can be found through the EPA's website at: http://www2.epa.gov/indoor-air-quality-iaq/find-regional-and-state-indoor-air-quality-contact-information