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## **MOLD INSPECTION REPORT**

## PREPARED FOR THE FOLLOWING PROPERTY:



322 NE 12<sup>th</sup> Avenue Ocala, FL 34470

**PERFORMED ON:** 

November 21, 2022

**PERFORMED AND PREPARED BY:** 

Chris Ritko Licensed Florida Mold Assessor MRSA2640

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## I. INTRODUCTION

DK Environmental & Construction Services, Inc. (DKE) conducted a preliminary non-intrusive mold inspection of the accessible living spaces of the Interior of the property and has prepared this report summarizing our inspection findings and laboratory results. At the request of the client, two (2) Interior air samples and two (2) Interior tape samples were taken as part of the inspection services, along with one (1) Exterior baseline/control air sample.

The purpose of this inspection was to identify the presence or absence of mold growth and conditions conducive to mold growth, and to determine the Interior air quality as it relates to mold. Information obtained through visual inspection and microscopic analysis of air sampling was used to determine the property's interior conditions. DKE follows the Indoor Environmental Standards Organization (IESO) sampling protocols.

The following is a summary of this inspection's findings:

- •Visible microbial growth was observed on the Interior Kitchen Northeast drywall wall.
- •The tape sample taken on the Interior Kitchen Northeast drywall wall was found to contain high spore counts of Chaetomium.
- •The Interior Northwest Bedroom air sample was found to contain elevated spore counts of Aspergillus/Penicillium.
- •Mold remediation is recommended and outlined in the "Protocols" section of this report.

An explanation of the above-listed summary can be found in this report. If you have any questions after reviewing this report, please call us at 407-614-4572.

## II. SCOPE OF WORK & METHODS

## **Non-Intrusive Visual Inspection:**

A visual inspection with the use of a FLIR<sup>TM</sup> E6 infrared thermal imaging camera and a FLIR<sup>TM</sup> MR77 moisture meter was performed to identify suspect conditions and potential moisture source locations. Digital and infrared photographs were taken as necessary to support inspection findings.

## Air Sampling and Analysis:

Air samples were collected to determine indoor air quality relating to microbial contamination using Buck BioAire<sup>TM</sup> Model B520 Sampling Pumps with Allergenco D<sup>TM</sup> Spore Traps. The samples were collected for a five-minute period with a calibrated flow rate of 15 liters per minute for a total sample of 75 liters in accordance with the manufacturer's recommendations.

The Allergenco D<sup>™</sup> Spore Trap is a sampling device designed for the rapid collection and quantitative analysis of a wide range of airborne aerosols. It collects non-viable particulate such as mold spores, pollen, insect parts, skin cell fragments, fibers (asbestos, fiberglass, cellulose, etc.) and inorganic particles.

The air sampling methodology utilized for this project was designed to quantify the respective airborne presence of fungal spores in the interior living spaces in relationship to what is naturally occurring outdoors, commonly referred to as normal fungal ecology.

One (1) Exterior baseline/control air sample was collected for comparison purposes. Two (2) air samples were collected in the Interior of the property. After sample collection the cassettes were re-sealed and placed into individual plastic bags and delivered to EMSL Analytical, Inc. for direct microscopic examination. There, a microbiologist examined the slides to identify the type, and determine the airborne concentration of, fungal spores present. Spore identification is to genus level unless otherwise specified.

## III. SUMMARY OF PHYSICAL ANALYSIS

Inspection activities performed by DKE indicate the following conditions within the property, as existing at the time of the sample collections and observations:

## **Outdoor/Indoor Temperature and Relative Humidity:**

The outdoor temperature was 63.1°F, and the outdoor relative humidity was 65.2%. The weather was sunny with little to no wind activity.

ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers) recommends an indoor temperature of 68.5°F - 76.5°F, and an indoor relative humidity level of 30% - 60%. The following table lists the relevant conditions observed during the inspection:

Room Name/Number	Temp(°F)	Rel. Hum.(%)	Elevated Moisture Content (%)
Property Interior	68.7	58.6	None Detected

Levels that fall outside of recommended parameters are identified in red.

## **Microbial Airborne Activity:**

One (1) Exterior baseline/control air sample was collected in the same manner as the Interior air sample(s). As of this writing, no government agencies have determined the amount of mold spores a person can be exposed to before health problems occur. The Interior air quality should be "equal to or less than" the Exterior air quality in order to be safe for human occupancy. Please see the "Summary of Laboratory Analysis" and "Laboratory Analysis Report" for air sampling results.

## **Microbial Surface Activity:**

- •Visible microbial growth was observed on the Interior Kitchen Northeast drywall wall. One (1) tape sample was taken of this growth for identification purposes.
- •Suspected microbial growth was observed on the Interior Northwest Bedroom wood ceiling framing and roof decking. One (1) tape sample was taken of this suspected growth for identification purposes. This sample yielded only rare microbial spore counts.

## **VISUAL INSPECTION**

Please see the "Site Photographs" section in this report for the specific locations of impacted surfaces and substrates, if any, documented below:

## PROPERTY EXTERIOR

**Exterior Walls**: No visible conditions that would result in likely water intrusion were observed.

**Windows**: No visible conditions that would result in likely water intrusion were observed.

Roofing System: Significant roofing system damage was observed in the Interior Northwest Bedroom of the property.

**Grading**: No visible conditions that would result in likely water intrusion were observed.

## PROPERTY INTERIOR

- •The property owner stated that roofing system damage resulted in flooding into the Interior Northwest Bedroom of the property. This damage has not been repaired.
- •Visible water damage was observed on the Interior Northwest Bedroom drywall ceiling, West drywall wall, wood ceiling framing, wood roof decking, finished wood flooring, insulation, and contents.
- •Visible water damage was observed on the Interior Kitchen Northeast drywall wall.
- Interior temperature (68.7°F) was within ASHRAE recommendations. Interior relative humidity (58.6%) was within ASHRAE recommendations. Moisture level readings (≤17%) were within acceptable standards at the time of the inspection services.

**Note:** It is generally accepted that wood rots when it contains 17% or greater moisture content (MC). Therefore, a reading at or above 17% MC in any organic building material indicates a hazardous condition which should be investigated further. Generally, moisture content below 16% inhibits growth of both destructive fungi and surface fungi.

## IV. **SUMMARY OF LABORATORY ANALYSIS**

Airda arra a BAa	322 NE 12 <sup>th</sup> Avenue, Ocala, FL 34470 AEML, Inc. Results Dated November 21, 2022 Airborne Mold Spores by Spore Trap Technique and/or Surface Sampling by Tape/Swab				
Sample Number	Location	Elevated Fungal Species	Spores/M3*		
Allergenco D Spore Trap 4597992	Exterior West Wall Baseline/Control Sample Collected at Breathing Level	Aspergillus/Penicillium	0		
		Total Spore Count/M3	3,770		
Allergence	Interior Vitab on				
Allergenco D Spore Trap 4597937	Interior Kitchen Preliminary Sample Collected at Breathing Level				
4037307	Conceted at Breathing Level	Total Spore Count/M3	470		
Allergenco D Spore Trap 4598125	Interior Northwest Bedroom Preliminary Sample Collected at Breathing Level	Aspergillus/Penicillium	10,600		
	0	Total Spore Count/M3	11,570		
Bio-Tape 322-1	Interior Northwest Bedroom Preliminary Sample Collected from wood ceiling beam				
		Total Spore Count/M3	Rare (1-10)		
Bio-Tape 322-2	Interior Kitchen Preliminary Sample	Chaetomium	High		
	Collected from NE drywall wall	Total Spore Count/M3	>1,000		
	sults listed in <b>red</b> represent levels sig		ir (Spore		

Trap), or a "Heavy" or "Very Heavy" spore estimate (Tape or Swab).

Please refer to the "Laboratory Analysis Report" for further interpretation of these results.

- •The tape sample taken on the Interior Kitchen Northeast drywall wall was found to contain high spore counts of Chaetomium.
- •The Interior Northwest Bedroom air sample was found to contain elevated spore counts of Aspergillus/Penicillium.

As of this writing, no government agencies have determined the amount of mold spores a person can be exposed to before health problems occur. The indoor air quality should be "equal to or less than" the outside air quality in order to be safe for human occupancy.

Air sample results indicating a non-elevated spore concentration should not be construed as a guarantee or warranty against current or future microbial growth. These laboratory results are reflective of the indoor air quality conditions as they specifically relate to airborne fungal spores in the property at the time of sample collection. Air sample collection provides a "snapshot" in time as to what is occurring in the air at the time of sample collection. Any condition that allows for the loss of moisture control, including but not limited to: water intrusion, water vapor condensation, or prolonged elevated indoor humidity (>60%) may result in microbial growth.

## V. PROTOCOLS

- •Please refer to the "General Recommendations" section of this report when implementing these protocols.
- •The contractor performing this work should develop a detailed remediation plan to implement this protocol.
- •The following protocol guidelines are guidelines only. They can be modified, with approval of the environmental consultant, if it is believed the modifications will achieve the same or greater levels of worker and environmental protection and expedite remediation. This Protocol is not intended to be a detailed step-by-step outline of how to perform mold remediation. Rather, its purpose is to provide a general outline of how such projects should be handled. Work zones are often expanded based on the extent of "hidden damage" that is exposed when opening wall cavities, removing cabinetry, etc.
- •The remediation contractor is solely responsible for protection of health, safety, and the environment at the job site. The remediation contractor is solely responsible for all required training and licensure related to any work covered by this Mold Remediation Protocol. The remediation contractor shall re-clean at his expense if the post remediation samples fail or if the final visual inspection fails. This process of re-cleaning shall continue at the contractor's expense until a successful post remediation evaluation is achieved.
- •This section shall not be applicable if there are special or unusual contamination conditions discovered during the remediation activities that would substantially change or affect the post-remediation evaluation.

## 1. SUMMARY OF AREAS REQUIRING REMEDIATION/REPAIR

- Interior Northwest Bedroom
- Interior Kitchen
- HVAC System
- Roofing System

## 2. REMEDIATION PROCESS

- •Seal off all areas of the property where remediation will occur with 6-mil plastic by use of a negative air pressure containment system. This system should isolate the work area and prevent the migration of contaminants to the unaffected areas of the property. The Remediation Plan should detail how entry and exit from containment will be accomplished without spreading contaminant.
- •Isolate the HVAC system from the work area to minimize the risk of cross contamination. Use portable dehumidification as necessary during the remediation process.
- •Seal and protect contents with 6-mil plastic to prevent cross contamination in the property.
- •Install an adequate number of HEPA air scrubbers in the affected area to remove airborne spores/particles and to further isolate the environment.
- •As dust and debris is generated, it should be immediately cleaned up using HEPA vacuums or other appropriate methods.

## INTERIOR NORTHWEST BEDROOM

- •Remove all affected drywall ceiling and drywall wall.
- Remove all affected wood ceiling framing and roof decking.
- •Remove all affected insulation.
- Properly bag and dispose of all contaminated waste materials.
- •Treat and encapsulate all newly-exposed framing components with two coats of an EPA-registered mold resistant coating to prevent mold growth.
- •Clean, scrub, and disinfect all affected areas and contents (walls, ceiling, flooring, baseboard, shelving, picture frames, household goods, furniture, cabinetry, ceiling fans/lights, door components, window components, etc.) within the Interior Northwest Bedroom, as necessary, with an EPA-registered antimicrobial/antifungal disinfectant. All components/contents that cannot be adequately treated should be removed/disposed of.

## INTERIOR KITCHEN

- •Remove all affected North drywall wall.
- Properly bag and dispose of all contaminated waste materials.
- •Treat and encapsulate any newly-exposed framing components with two coats of an EPA-registered mold resistant coating to prevent mold growth.
- •Clean, scrub, and disinfect all affected areas and contents (walls, ceiling, flooring, baseboard, shelving, picture frames, household goods, furniture, cabinetry, electronics, appliances, ceiling fans/lights, door components, window components, etc.) within the Interior Kitchen, as necessary, with an EPA-registered antimicrobial/antifungal disinfectant. All components/contents that cannot be adequately treated should be removed/disposed of.

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## **HVAC SYSTEM**

•Inspection and cleaning of the HVAC system, including air handler, ductwork, vents, exhaust fans, etc., by a licensed and insured HVAC contractor is recommended.

## ROOFING SYSTEM

•Inspection/repair of the roofing system by a licensed and insured roofing contractor is recommended.

- •Post-remediation clearance evaluation should be performed by a Florida-licensed Mold Assessor.
- •Following post-remediation clearance evaluation, disassemble and bag containment materials. Dispose of containment materials according to proper disposal protocol.

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**End of Section** 

## VI. GENERAL RECOMMENDATIONS

This report only provides an evaluation of the interior substrate conditions and indoor air quality as they relate to mold and moisture. The following recommendations are meant to provide general remediation procedures based on nationally-accepted standards. These recommendations should not be construed as the only effective methodology for remediation and no warranty is expressed or implied with these recommendations. DKE is independent of any remediation process, and we defer to the qualified remediator for specific repair protocols since the actual remediation process may expose additional areas requiring treatment.

- •The goal of the remediation process is to correct all existing moisture conditions that promote mold growth, and to physically remove all mold contaminated/non-restorable materials in accordance with the IICRC S520 mold remediation standard.
- •Prior to any remediation, always correct all conditions that have contributed to excess moisture or humidity at the property. Extract any excess water from the property, and remove excess humidity with a professional-grade dehumdifier. Relative humidity must be maintained between 30% 60% in the work area.
- •We recommend Florida-licensed mold remediators with ACAC and/or IICRC certified personnel who are experienced with water damage and microbial remediation solutions perform all remedial activities including intrusive investigation. The remediation company should show proof of licensing/certification, carry mold-specific Errors & Omissions Insurance, General Liability Insurance and Worker's Compensation.
- •All remediation workers should be properly licensed/certified. Adequate personal protective equipment (PPE) must be worn when engaging in mold remediation activities. This PPE should include, but is not limited to, N95 respirators, disposable coveralls, non-vented eye goggles, and rubber gloves that extend to mid-forearm.
- •Any and all water damaged/mold impacted areas should be in containment. These areas should be sealed off using 6-mil plastic under a negative pressure with the use of negative air machines (NAMs) equipped with high-efficiency particulate air (HEPA) filtration during remedial efforts to prevent potential cross-contamination between the affected and unaffected areas.
- •The HVAC system should be isolated from the work area to minimize the risk of cross contamination. Portable dehumidification may be necessary during the remediation process to maintain conditions that will not support additional mold growth.
- •Any and all roofing system inspection and work should be performed by a licensed and insured roofing contractor.
- •Any and all HVAC system inspection and work should be performed by a licensed and insured HVAC contractor.
- •All exterior sprinkler system and downspout discharge should be directed away from property walls/foundations.

- •Intrusive investigation should be performed by qualified persons in areas with water damage and/or elevated moisture content to identify the full extent of areas requiring remedial treatment.
- •Areas of water damaged and/or stained carpeting that cannot be adequately dried and cleaned should be discarded. Areas of carpet pads that have been wet should always be discarded.
- •Areas of wet/water-damaged insulation should be removed.
- •Porous building materials (sheetrock, baseboards, tack strips, etc.) that have been water damaged to the point that drying and cleaning will not restore them to their prewater exposure condition or have sustained loss of integrity should be removed and discarded, whether or not there is visible evidence of fungal growth.
- •All non-porous materials and wood surfaces that show visible signs of mold must be cleaned. Sand or use a wire brush on all mold-contaminated surfaces and then wipe the area with disposable wipes. Scrub all mold-contaminated surfaces using a damp cloth and detergent solution until all mold has been removed. Rinse cleaned surfaces with clean water.
- •Non-removable, contaminated wood structural supports must be sanded down at least 1/16th of an inch to remove mold prior to fungicidal treatment. Contaminated metal studs must be cleaned with a detergent solution and treated with fungicide. If it is not possible to clean and disinfect the structural item, then it must be removed, disposed of and replaced. Structural supporting members may need the consultation of a structural engineer prior to removal and replacement. Sand or wipe away mold from the top, bottom, front, back, and sides of items. This approach to covering all surfaces must also be utilized when applying fungicide.
- •All visible fungi must be physically removed. Areas that have developed fungal growth should be HEPA vacuumed and cleaned thoroughly with an EPA registered product. However, if the mold growth is imbedded within the material and cannot be cleaned, removal of the contaminated materials plus an additional three (3) feet of material beyond the affected area(s) should also be removed and disposed of.
- •Contaminated building materials should be removed carefully in as large a section as possible for bagging or wrapping with 6-mil disposal bags or securely wrapped in 6-mil poly sheeting. Bagged materials should be sealed inside a second bag before moving them outside the containment area (double bagging), if they are going to pass through Condition 1 areas.
- •All surfaces within the containment should be HEPA vacuumed, damp-wiped with an appropriate EPA registered product, and HEPA vacuumed again.
- •Post-remediation verification should be performed by a licensed Mold Assessor prior to any build-back of finish materials.

## VII. IN CLOSING

In closing, DKE strongly recommends that any and all biological remediation be conducted following guidelines established by the Institute of Inspection Cleaning and Restoration (IICRC). Their document entitled <u>IICRC S520 Standard and Reference Guide for Professional Mold Remediation</u> outlines work practices and equipment to be utilized during the remediation procedure. Also follow recommendations outlined in the US EPA: <u>Mold Remediation in Schools and Commercial Buildings</u>, Publication EPA 402-K-01-001.

It is important to note that our findings relating to physical conditions observed during this assessment were not intended nor do they attempt to identify every possible source of contamination, mold or otherwise, in the structure. The assessor is neither insurer nor guarantor against water problems, mold problems or other defects in the subject property or any of its components.

Any measured results, analysis data and/or physical observations made are valid only for the period in which this inspection was conducted. Any additional degradation of building materials or contamination from new or reactivated sources or areas inaccessible at the time of the inspection is not the responsibility of DKE.

Historical events or ambient air conditions that may have existed prior to this inspection cannot be correlated in any way with the enclosed data. No warranty, real or implied, is made as to what was or is the exact cause or source that may have adversely affected the indoor air quality.

If you have any questions after reviewing this report, please call us at 321-401-5094. We are happy to help as your good health and comfort is our goal.

Thank You,

Debra Koontz, President

DK Environmental & Construction Services, Inc.

## VIII. SITE PHOTOGRAPHS



Pumps B153637, B153638, B154503 Calibration prior to testing



Pump B154503 Exterior West Wall sample



Pump B153637 Interior Kitchen sample



Pump B153638 Interior Northwest Bedroom sample



Interior Northwest Bedroom
Drywall ceiling, wood framing/decking
Visible water damage

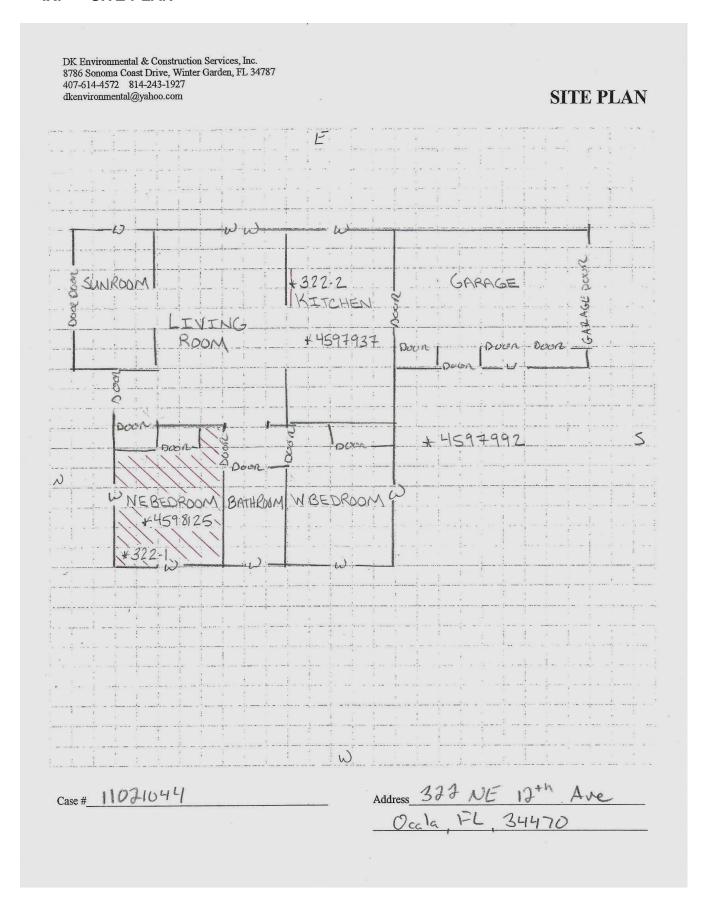


Interior Northwest Bedroom
Drywall walls, wood flooring, contents
Visible water damage



Interior Kitchen Northeast drywall wall Visible water damage Visible microbial growth

## IX. SITE PLAN



## X. DEFINITIONS

**Airborne:** supported especially by aerodynamic forces or propelled through the air by force.

Air filtration device (AFD): depending on the mode of use, an AFD that filters (usually HEPA) and recirculates air is referred to as an air scrubber. One that filters air and creates negative pressure is referred to as a negative air machine (NAM).

Allergens: substances that act as antigens producing an allergy.

**Assessment:** a process performed by an indoor environmental professional (IEP) that includes the evaluation of data obtained from a building history and inspection to formulate an initial hypothesis about the origin, identity, location and extent of amplification of mold contamination. If necessary, a sampling plan is developed, and samples are collected and sent to a qualified laboratory for analysis. The subsequent data is interpreted by the IEP. Then, the IEP, or other qualified individual, may develop a remediation plan.

**Condition 1** (*normal fungal ecology*): an indoor environment that may have settled spores, fungal fragments or traces of actual growth whose identity, location and quantity are reflective of a normal fungal ecology for a similar indoor environment.

**Condition 2** (*settled spores*): an indoor environment which is primarily contaminated with settled spores that were dispersed directly or indirectly from a Condition 3 area, and which may have traces of actual growth.

**Condition 3 (***actual growth***)**: an indoor environment contaminated with the presence of actual mold growth and associated spores. Actual growth includes growth that is active or dormant, visible or hidden.

**Containment:** a precaution used to minimize cross-contamination from affected to unaffected areas by traffic or material handling. Containment normally consists of 6-mil polyethylene sheeting, often in combination with negative air pressure, to prevent cross-contamination.

**Contaminated (contamination):** the presence of indoor mold growth or mold spores, whose identity, location and quantity are not reflective of a *normal fungal ecology* for similar indoor environments, and which may produce adverse health effects, cause damage to materials or adversely affect the operation or function of building systems.

**Cross-contamination:** the spread of a source or sources of contamination from an affected area to an unaffected area.

**Dew Point Temperature:** the temperature at which water vapor begins, or would begin, to condense.

**Fungus (plural "fungi"):** one of the kingdoms into which living things are categorized. Fungi have distinct nuclei and include a variety of types, such as molds, yeasts, and mushrooms.

**Genus:** a taxonomic category ranking below a family and above a species.

**HEPA:** an acronym for "high efficiency particulate air/arrestance", which describes an air filter that removes 99.97% of particles at 0.3 microns in diameter.

**HVAC:** an acronym for Heating, Ventilation, and Air Conditioning.

**Indoor Environmental Professional (IEP):** an individual who is qualified by knowledge, skill, education, training, certification and experience to perform an assessment of the fungal ecology of structures, systems and contents at a job site, create a sampling strategy, sample the indoor environment and submit to an appropriate laboratory, interpret laboratory data and determine Condition 1, 2, or 3 for the purpose of establishing a scope of work and verifying the return of the job site to Condition 1.

**Inspection:** the gathering of information regarding the mold and moisture status of the building, system, contents or area in question.

**Materially-interested parties:** an individual or entity substantially and directly affected by a mold remediation project.

**MERV:** MERV is an acronym for Minimum Efficiency Reporting Value. The MERV rating is a measure of the minimum efficiency of an air filter when dealing with particulate sizes between 0.3 to 10 microns.

**Micron:** one-millionth of a meter - also known as a micrometer.

**Mold:** a group of microscopic organisms that are part of the Fungi Kingdom. They generally reproduce by means of spores and are ubiquitous. Often, the terms mold and fungi are used interchangeably.

**MVOC's: Microbial Volatile Organic Compounds -** Some compounds produced by molds are volatile and are released directly into the air.

**Mycelium:** the vegetative part of a fungus consisting of a mass of branching threadlike structures.

**Mycotoxin:** Toxic compounds produced by certain fungi. Some mycotoxins cling to the surface of mold spores; others may be found within spores. More than 200 mycotoxins have been identified from common molds, and many more remain to be identified.

**Normal fungal ecology** (Condition 1): an indoor environment that may have settled spores, fungal fragments or traces of actual growth whose identity, location and quantity are reflective of a normal fungal ecology for a similar indoor environment.

Pathogenic: causing or capable of causing disease.

**Personal protective equipment (PPE):** safety items designed to prevent exposure to potential hazards. Examples include: respirators, gloves, goggles, protective clothing and tools.

**Plenum:** an air-filled space in a structure that receives air from a blower for distribution (as in a ventilation system).

**Post-remediation verification:** an inspection and assessment performed by an IEP after a remediation project, which can include visual inspection, odor detection, analytical testing or environmental sampling methodologies to verify that structure, system or contents have been returned to Condition 1.

**Preliminary determination:** a conclusion drawn from the collection, analysis and summary of information obtained during an initial inspection and evaluation to identify areas of moisture and actual or potential mold growth.

**Quality control:** activities performed by a remediator that are designed to assure the effectiveness of the advised or suggested.

**Relative Humidity**: The ratio of the amount of water in the air at a given temperature to the maximum amount it could hold at that temperature; expressed as a percentage.

**Remediate:** the process of restoring, repairing; regarding mold damage in buildings. The process includes removing damaged materials, replacing them with new materials and correcting the problem(s) that caused the damage.

**Spores:** the reproductive elements of lower organisms, such as fungi.

**Threshold Exposure Limits:** Threshold exposure limits for fungal air contaminants for individual occupants have not been established, and because of other factors that affect the exposure levels independent of area (proximity, duration), it is impossible to say with certainty how small an area of visible mold growth is small enough to ignore. It is recommended, therefore, that all visible growth be remediated regardless of area.

**Toxicity:** the degree to which something is poisonous.

**Toxinogenic:** toxin-producing fungi or bacteria.

**Viable:** capable of germination and growth.

Volatile Organic Compounds (VOC's): chemicals which vaporize at room temperature.

## XI. REFERENCES

- •IICRC S520: Standard and Reference Guide for Professional Mold Remediation 3<sup>rd</sup> Edition. Institution of Inspection, Cleaning and Restoration Certification. Vancouver, WA. 2015
- •IICRC S500: Standard and Reference Guide for Professional Water Damage Restoration 4<sup>th</sup> Edition. Institution of Inspection, Cleaning and Restoration Certification. Vancouver, WA. 2015
- •Recognition, Evaluation and Control of Indoor Mold. American Industrial Hygiene Association. Fairfax, Va. 2008
- •Fungal Contamination: A Manual for Investigation, Remediation and Control. Hollace S. Bailey, PE, CIAQP, CIE, CMR. Building Environment Consultants, Inc. Jupiter, FL. 2005
- •Bioaerosols: Assessment and Control. Janet Macher, ScD., M.P.H. American Conference of Governmental Industrial Hygienists, Cincinnati, OH. 1998
- •Worldwide Exposure Standards for Mold and Bacteria. 8<sup>th</sup> Edition. Robert C. Brandys, PhD, MPH, PE, CIH, CSP, CMR and Gail M. Brandys, MS, CSP, CMR, CIEC. OEHCS Publications. Hinsdale, IL. 2010
- •Post-Remediation Verification and Clearance Testing for Mold and Bacteria Risk Based Levels of Cleanliness Assurance 5<sup>th</sup> Edition. Robert C. Brandys, PhD, MPH, PE, CIH, CSP, CMR and Gail M. Brandys, MS, CSP, CMR, CIEC. OEHCS Publications. Hinsdale, IL.

## XII. **LICENSING**



Melanie S. Griffin, Secretary

Ron DeSantis, Governor

## **DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION** STATE OF FLORIDA

# MOLD-RELATED SERVICES LICENSING PROGRAM

THE MOLD ASSESSOR HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 468, FLORIDA STATUTES

## RITKO, CHRIS

9007 PAOLOS PLACE SSIMMEE FL 34747 KISSIMMEE

## **LICENSE NUMBER: MRSA2640**

**EXPIRATION DATE: JULY 31, 2024** 

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## EXPANDED FUNGAL REPORT

TM

## **Prepared Exclusively For**

DK Environmental

8786 Sonoma Coast Drive Winter Garden, FL 34787 Phone:814-243-1927

Report Date: 11/21/2022

Project: 322 NE 12th Avenue Ocala, FL 34470

EMSL Order: 342224811

AIHA LAP, LLC.

AIHA LAP, LLCEMLAP #163563





3303 PARKWAY CENTER COURT Orlando, FL 32808

Phone: (407) 599-5887 Fax: (407) 599-9063 Web: http://www.EMSL.com Email:orlandolab@emsl.com

Attn: Debbie Koontz

MSL

DK Environmental 8786 Sonoma Coast Drive Winter Garden, FL 34787 EMSL Order: 342224811 Customer ID: DKEN75 Collected: 11/21/2022 Received: 11/21/2022

Analyzed: 11/21/2022

Proj: 322 NE 12th Avenue Ocala, FL 34470

## 1. Description of Analysis

## **Analytical Laboratory**

EMSL Analytical, Inc. (EMSL) is a nationwide, full service, analytical testing laboratory network providing Asbestos, Mold, Indoor Air Quality, Microbiological, Environmental, Chemical, Forensic, Materials, Industrial Hygiene and Mechanical Testing services since 1981. Ranked as the premier independently owned environmental testing laboratory in the nation, EMSL puts analytical quality as its top priority. This quality is recognized by many well-respected federal, state and private accrediting agencies, and assured by our high quality personnel, including many Ph.D. microbiologists and mycologists.

EMSL is an independent laboratory that performed the analysis of these samples. EMSL did not conduct the sampling or site investigation for this report. The samples referenced herein were analyzed under strict quality control procedures using state-of-the-art microbiological methods. The analytical methods used and the data presented are scientifically and legally defensible

The laboratory data is provided in compliance with ISO-IEC 17025 guidelines for the particular test(s) requested, including any associated limitations for the methods employed. These data are intended for use by professionals having knowledge of the testing methods necessary to interpret them accurately.



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Attn: Debbie Koontz
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8786 Sonoma Coast Drive
Winter Garden, FL 34787

MSL

EMSL Order: 342224811 Customer ID: DKEN75 Collected: 11/21/2022 Received: 11/21/2022 Analyzed: 11/21/2022

Proj: 322 NE 12th Avenue Ocala, FL 34470

## **Air Samples - Spore traps:**

Spore traps are commercially available sampling devices that capture airborne particles on an adhesive slide. Air is pulled through the device using a vacuum pump. Spores, as well as other airborne particles, are impacted on the collection adhesive. Using spore trap collection methods has inherent limitations. These collection methods are biased towards larger spore sizes.

The analysis for total spore counts is a direct microscopic examination and does not include culturing or growing the fungi. Therefore, the results include both viable and non-viable spores. Some fungal groups produce similar spore types that cannot be distinguished by direct microscopic examination alone (i.e., *Aspergillus/Penicillium*, and others). Other spore types may lack distinguishing features that aid in their identification. These types are grouped into larger categories such as Ascospores or Basidiospores.

Fungal spores are identified and grouped by morphological characteristics including color, shape, septation, ornamentation, and fruiting structures (if present) which are compared to published mycological identification keys and texts. EMSL reports provide spore counts per cubic meter of air to three significant figures. Please note that each spore category is reported to three significant figures. Due to rounding and the application of three significant figures the sum of the individual spore numbers may not equal the total spore count on the report. EMSL does not maintain responsibility for final volume concentrations (counts/m3) since this volume is provided by the field collector and can not be verified by EMSL.

EMSL analyzes spore traps using phase contrast microscopy. There is a wide choice of collection devices (Air-O-Cell, Micro-5, Burkhard, etc.) on the market. Differences in analytical method may exist between spore trap devices.

Spore trap results are reported in spores per cubic meter of air. Due to the other airborne particles collected with the spores, EMSL reports a background particle density. Background density is an indication of overall particulate matter present on the sample (i.e. dust in the air). High background concentrations may obscure spores such as the Penicillium/Aspergillus group. The rating system is from 1-5 with 1 = 1 - 25% of the background obscured by material, 2 = 26 - 50%, 3 = 51 - 75%, 4 = 76% - 99%, 5 = 100% or overloaded. A background rating of 4 or higher should be regarded as a minimum count since the actual concentrations may be higher than those reported. EMSL will not be held responsible for overloading of samples. Sample volumes are left to the discretion of the company or persons conducting the fieldwork.

Skin fragment density is the percentage of skin cells making up the total background material, 1 = 1 - 25%, 2 = 26 - 50%, 3 = 51 - 75%, 4 = 76-100%. Skin fragment density is considered an indication of the general cleanliness in the area sampled. It has been estimated that up to 90% of household dust consists of dead skin cells.



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Attn: Debbie Koontz

EMSL

DK Environmental 8786 Sonoma Coast Drive Winter Garden, FL 34787 EMSL Order: 342224811 Customer ID: DKEN75 Collected: 11/21/2022 Received: 11/21/2022 Analyzed: 11/21/2022

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## 2. Analytical Results

See attached data reports and charts.



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 DK Environmental
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 Winter Garden, FL 34787
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 Analyzed:
 11/21/2022

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

342224811

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	342224811-0001 4597992 75 Exterior West Wall B/C		342224811-0002 4597937 75 Interior Kitchen			342224811-0003 4598125 75 Interior NW Bedroom			
Spore Types	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	1	40	0.3
Ascospores	9	400	10.6	-	-	-	3	100	0.9
Aspergillus/Penicillium	-	-	-	7	300	63.8	244	10600	91.6
Basidiospores	55	2400	63.7	3	100	21.3	2	90	8.0
Bipolaris++	-	-	-	-	-	-	1	40	0.3
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	19	830	22	1	40	8.5	3	100	0.9
Curvularia	-	-	-	2*	30*	6.4	5	200	1.7
Epicoccum	-	-	-	-	-	-	1*	10*	0.1
Fusarium++	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	2	90	8.0
Myxomycetes++	1	40	1.1	-	-	-	5	200	1.7
Pithomyces++	-	-	-	-	-	-	2	90	8.0
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	3	100	2.7	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Nigrospora	•	-	-	-	-	-	1*	10*	0.1
Total Fungi	87	3770	100	13	470	100	270	11570	100
Hyphal Fragment	•	-	-	-	-	-	1	40	-
Insect Fragment	-	-	-	2	90	-	1	40	-
Pollen	-	-	-	-	-	-	3	100	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	2	-	-	2	-	-	2	-
Background (1-5)	-	2	-	-	2	-	-	3	-

++ 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.

Yessica Martinez Seeman, Florida Microbiology Regional Manager

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Samples analyzed by EMSL Analytical, Inc. Orlando, FL AIHA LAP, LLC-EMLAP Accredited #163563

Initial report from: 11/21/2022 13:16:55

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Received: 11/21/2022 Analyzed: 11/21/2022

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Winter Garden, FL 34787

## Test Report: Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Tape Samples (EMSL Method MICRO-SOP-200)

Lab Sample Number: Client Sample ID: Sample Location:	342224811-0004 322-1 Interior NE Bedroom Wood Ceiling Beam	342224811-0005 322-2 Interior Kitchen N Drywall Wall			
Spore Types	Category	Category	-	-	-
Alternaria (Ulocladium)	-	-			
Ascospores	-	-			
Aspergillus/Penicillium	-	Low			
Basidiospores	-	-			
Bipolaris++	-				
Chaetomium++	-	*High*			
Cladosporium	Rare	-			
Curvularia	-	-			
Epicoccum	-	-			
Fusarium++	-	-			
Ganoderma	-	-			
Myxomycetes++	-	-			
Pithomyces++	-	-			
Rust	-	-			
Scopulariopsis/Microascus	-	-			
Stachybotrys/Memnoniella	-	-			
Unidentifiable Spores	-	-			
Zygomycetes	-	-			
Hyphal Fragment	Rare	-			
Insect Fragment	Low	Rare			
Pollen	Rare	-			
Fibrous Particulate	-	-			

Category: Count/per area analyzed

Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000

High background particulate: A high level of background particulate can obscure fungal matter and lead to underestimation or failure to detect

- ++ = Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.
- \* = Sample contains fruiting structures and/or hyphae associated with the spores.

= Not detected.

Yessica Martinez Seeman, Florida Microbiology Regional Manager

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

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Initial report from: 11/21/2022 13:16:55



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## 3. Understanding the Results

EMSL Analytical, Inc. is an independent laboratory, providing unbiased and scientifically valid results. These data represent only a portion of an overall IAQ investigation. Visual information and environmental conditions measured during the site assessment (humidity, moisture readings, etc.) are crucial to any final interpretation of the results. Many factors impact the final results; therefore, result interpretation should only be conducted by qualified individuals. The American Conference of Governmental Industrial Hygienists (ACGIH) has published a good reference book covering sampling and data interpretation. It is entitled, Bioaerosols: Assessment and Control, 1999.

Fungal spores are found everywhere. Whether or not symptoms develop in people exposed to fungi depends on the nature of the fungal material (e.g., allergenic, toxic, or infectious), the exposure level, and the susceptibility of exposed persons. Susceptibility varies with the genetic predisposition (e.g., allergic reactions do not always occur in all individuals), age, pre-existing medical conditions (e.g., diabetes, cancer, or chronic lung conditions), use of immunosuppressive drugs, and concurrent exposures. These reasons make it difficult to identify dose/response relationships that are required to establish "safe" or "unsafe" levels (i.e., permissible exposure limits).

It is generally accepted in the industry that indoor fungal growth is undesirable and inappropriate, necessitating removal or other appropriate remedial actions. The New York City guidelines and EPA guidelines for mold remediation in schools and commercial buildings define the conditions warranting mold remediation. Always remember that water is the key. Preventing water damage or water condensation will prevent mold growth.

This report is not intended to provide medical advice or advice concerning the relative safety of an occupied space. Always consult an occupational or environmental health physician who has experience addressing indoor air contaminants if you have any questions.



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## 4. Glossary of Fungi

ALTERNARIA(ULOCL	ADIUM)
Natural Habitat	Common saprobe and pathogen of plants. Typically found on plant tissue, decaying wood, and foods. Soil . Air outdoors.
Suitable Substrates in the	Indoors near condensation (window frames, showers), House dust (in carpets, and air). Also
Indoor Environment	colonizes building supplies, computer disks, cosmetics, leather, optical instruments, paper,
	sewage, stone monuments, textiles, wood pulp, and jet fuel
Water Activity	Aw =0.85-0.88 (water damage indicator)
Mode of Dissemination	Wind
Allergic Potential	Type I allergies (hay fever, asthma), Type III (hypersensitivity pneumonitis)
Potential or Opportunistic	Phaeohyphomycosis {causing cystic granulomas in the skin and subcutaneous tissue}. In
Pathogens	immunocompetent patients, Alternaria colonizes the paranasal sinuses, leading to chronic
_	hypertrophic sinusitis
Industrial Uses	Biocontrol of weed plants ·Biocontrol fungal plant pathogens.
Potential Toxins Produced	Alternariol (AOH) . Alternariol monomethylether (AME). Tenuazonic acid (TeA). Altenuene
	(ALT). Altertoxins (ATX)
Other Comments	Many species of Ulocladium have been renamed as Alternaria. Alternaria spores are one of
	the most common and potent indoor and outdoor airborne allergens. Additionally, Alternaria
	sensitization has been determined to be one of the most important factors in the onset of
	childhood asthma. Synergy with Cladosporium or Ulocladium may increase the severity of
	symptoms
References	Alternaria redefined. J. Woudenberg et al., Studies in Mycology. Volume 75, June 2013, Pages
	171-212

ASCOSPORES	
Natural Habitat	Everywhere in nature.
Suitable Substrates in the	Depends on genus and species.
Indoor Environment	
Water Activity	Depends on genus and species.
Mode of Dissemination	Forcible ejection or passive release and dissemination by wind or insects.
Allergic Potential	Depends on genus and species.
Potential or Opportunistic	Depends on genus and species.
Pathogens	
Industrial Uses	Depends on genus and species.
Potential Toxins Produced	Depends on genus and species.
Other Comments	Ascospores are the result of sexual reproduction and produced in a saclike structure called an
	ascus. All ascospores belong to members of the Phylum Ascomycota, which encompasses a
	plethora of genera worldwide.





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ASPERGILLUS/PENIC	ILLIUM
Natural Habitat	Plant debris ·Seed ·Cereal crops
Suitable Substrates in the	Grows on a wide range of substrates indoors ·Prevalent in water damaged buildings ·Foods
Indoor Environment	(blue mold on cereals, fruits, vegetables, dried foods) ·House dust ·Fabrics ·Leather
	·Wallpaper ·Wallpaper glue
Water Activity	Aw=0.75-0.94
Mode of Dissemination	Wind ·Insects
Allergic Potential	Type I (hay fever, asthma) ·Type III (hypersensitivity)
Potential or Opportunistic	Possible depending on the species.
Pathogens	
Industrial Uses	Many depending on the species
Potential Toxins Produced	Possible depending on the species.
Other Comments	Spores of Aspergillus and Penicillium (including others such as Acremonium, Talaromyces,
	and Paecilomyces) are small and spherical with few distinguishing characteristics. They cannot
	be differentiated or speciated by non-viable impaction sampling methods. Some species with
	very small spores may be undercounted in samples with high background debris.

Analyzed:

11/21/2022

BASIDIOSPORES	
Natural Habitat	Forest floors. Lawns .Plants (saprobes or pathogens depending on genus)
Suitable Substrates in the	Depends on genus. Wood products
Indoor Environment	
Water Activity	Unknown.
Mode of Dissemination	Forcible ejection. Wind currents.
Allergic Potential	Type I allergies (hay fever, asthma) . Type III (hypersensitivity pneumonitis)
Potential or Opportunistic	Depends on genus.
Pathogens	
Industrial Uses	Edible mushrooms are used in the food industry.
Potential Toxins Produced	Amanitins. monomethyl-hydrazine. muscarine. ibotenic acid. psilocybin.
Other Comments	Basidiospores are the result of sexual reproduction and formed on a structure called the basidium. Basidiospores belong to the members of the Phylum Basidiomycota, which includes mushrooms, shelf fungi, rusts, and smuts.

BIPOLARIS++	
Natural Habitat	Plant saprophyte.Plant pathogen of many plants, causing leaf rot, crown rot, and root rot on warm season turf grasses
Suitable Substrates in the Indoor Environment	House plants, Indoor building materials
Free moisture required for mold growth	Unknown
Mode of Dissemination	Wind
Allergic Potential	Hay fever, asthma. Allergic and chronic invasive sinusitis
Potential or Opportunistic Pathogens	Invasive sinusitis, disseminated mycoses, peritonitis, keratitis, phaeohyphomycosis
Potential Toxins	Can potentially produce sterigmatocystin.
Other Comments	Includes Bipolaris, Drechslera, Exserohilum.



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CHAETOMIUM++	
Natural Habitat	Dung. Seeds. Soil. Straw. Genera with like spores include Amesia, Arcopilus, Botryotrichum, Collariella, Dichotomopilus, Ovatospora, Subramaniula and others.
Suitable Substrates in the Indoor Environment	Paper. Sheetrock. Wallpaper.
Water Activity	Aw=0.84-0.89.
Mode of Dissemination	Wind. Insects. Water splash.
Allergic Potential	Type I (asthma and hay fever).
Potential or Opportunistic Pathogens	Onychomycosis. C. perlucidum recognized as a new agent of cerebral phaeohyphomycosis.
Industrial Uses	Cellulase production, Textile testing.
Potential Toxins Produced	Chaetomin. Chaetoglobosins A,B,D and F are produced by Chaetomium globosum.  Sterigmatocystin is produced by rare species

Analyzed:

CLADOSPORIUM	
Natural Habitat	Dead plant matter. Straw. Soil. Woody plants
Suitable Substrates in the	Fiberglass duct liner. Paint. Textiles. Found in high concentration in water-damaged building
Indoor Environment	materials.
Water Activity	Aw 0.84-0.88
Mode of Dissemination	Air
Allergic Potential	Type I (asthma and hay fever).
Potential or Opportunistic	Edema. keratitis. onychomycosis. pulmonary infections. Sinusitis.
Pathogens	
Industrial Uses	Produces 10 antigens.
Potential Toxins Produced	Cladosporin and Emodin.

CURVULARIA	
Natural Habitat	A worldwide saprophytic fungi, being isolated from dead plant material and soil.
Suitable Substrates in the	Paper, wood products
Indoor Environment	
Free moisture required for	Unknown
mold growth	
Mode of Dissemination	Wind
Allergic Potential	Hay fever, asthma, allergic fungal sinusitis
Potential or Opportunistic	In immunocompromised patients can cause cerebral abscess, endocarditis, mycetoma, ocular
Pathogens	keratitis, onychomycosis, and pneumonia.

EPICOCCUM	
Natural Habitat	A worldwide saprophytic fungi, being isolated from dead plant material and soil.
Suitable Substrates in the	Paper, textiles
Indoor Environment	
Water Activity	0.86-0.90
Mode of Dissemination	Wind
Allergic Potential	Hay fever, asthma
Potential or Opportunistic	Unknown
Pathogens	

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GANODERMA	
Natural Habitat	Grows on conifers and hardwoods worldwide, causing white rot, root rot, and stem rot.
Suitable Substrates in the	Unknown.
Indoor Environment	
Water Activity	Unknown.
Mode of Dissemination	Wind.
Allergic Potential	Ganoderma species are known to cause allergies in people on a worldwide scale.
Potential or Opportunistic	Unknown.
Pathogens	
Industrial Uses	Biopulping of wood for the paper industry. Potential medicinal use due to: 1. Inhibition of Ras dependent cell transformation, 2. Antifibrotic activity, 3. Immunomodulating activity, 4. Free-radicle scavenging
Potential Toxins Produced	Unknown.
Other Comments	Used in traditional Chinese medicine as an herbal supplement. It is also known as a "shelf fungus" because the fruiting body forms a stalk-less shelf on the sides of trees and logs. It is sometimes called "artists conk" because when you scratch the white pores of the fruiting body, the white rubs away and exposes the brown hyphae underneath. Thus, pictures can be produced on the fruiting body.
Reference	References: Craig, R.L., Levetin, E. 2000. Multi-year study of Ganoderma aerobiology.  Aerobiologia 16: 75-81.  http://www.pfc.forestry.ca/diseases/CTD/Group/Heart/heart6_e.html

Analyzed:

MYXOMYCETES++	
Natural Habitat	Decaying logs, Dead leaves , Dung , Lawns , Mulched flower beds, Lawns
Suitable Substrates in the	Rotting lumber
Indoor Environment	
Free moisture required for	Unknown
mold growth	
Mode of Dissemination	Insects, Water, Wind
Allergic Potential	Type I
Potential or Opportunistic	Unknown
Pathogens	
Industrial Uses	
Other Comments	Includes Myxomycetes, Smut, Rust, and Periconia.

NIGROSPORA	
Natural Habitat	Common on live or dead grass, seeds & soil.
Suitable Substrates in the	Unknown
Indoor Environment	
Water Activity	Unknown
Mode of Dissemination	Forcibly projected.
Allergic Potential	Type 1 allergies (hey fever, asthma)
Potential or Opportunistic	Keratitis & skin lesions
Pathogens	



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PITHOMYCES++	
Natural Habitat	A worldwide saprophytic fungi, being isolated from dead plant material and soil.
Suitable Substrates in the	Paper
Indoor Environment	
Water Activity	Requires high moisture for spore germination
Mode of Dissemination	Wind
Allergic Potential	Unknown
Potential or Opportunistic	Mycosis in immunocompromised patients
Pathogens	
Other Comments	Pithomyces++ includes spores of Pithomyces and Pseudopithomyces.

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## 5. References and Informational Links

## **Books**

**EMSL** 

- Bioaerosols: Assessment and Control. Janet Macher, Ed., American Conference of Governmental Industrial Hygienists, Cincinnati, OH 1999.
- Exposure Guidelines for Residential Indoor Air Quality. Environmental Health Directorate, Health Protection Branch, Health Canada, Ottawa, Ontario, 1989.
- Fungal Contamination in Public Buildings: Health Effects and Investigation Methods. Health Canada, Ottawa, Ontario, 2004.
- IICRC: S500 Standard and Reference Guide for Professional Water Damage Restoration.
   3rd Edition, Institute of Inspection, Cleaning, and Restoration Certification, Vancouver, WA,
   2006

IICRC: S520 Standard and Reference Guide for Professional Mold Remediation. 1st Edition, Institute of Inspection, Cleaning, and Restoration Certification, Vancouver, WA, 2004

• Field Guide for the Determination of Biological Contaminants in Environmental Samples. 2nd Edition, American Industrial Hygiene Association, 2005.

## **Consumer Links**

Read the full text of AIHA's "The Facts About Mold" consumer brochure.
<a href="http://www.aiha.org/get-involved/VolunteerGroups/Documents/BiosafetyVG-FactsAbout%2">http://www.aiha.org/get-involved/VolunteerGroups/Documents/BiosafetyVG-FactsAbout%2</a>
0MoldDecember2011.pdf>

The Occupational Safety and Health Administration (OSHA) http://www.osha.gov/SLTC/molds/index.html

**CDC Mold Facts** 

http://www.cdc.gov/mold/faqs.htm

CDC Stachybotrys - Questions and answers on Stachybotrys chartarum and other molds <a href="http://www.cdc.gov/mold/stachy.htm">http://www.cdc.gov/mold/stachy.htm</a>

IOM, NAS: Clearing the Air: Asthma and Indoor Air Exposures https://www.epa.gov/indoor-air-quality-iag/should-you-have-air-ducts-your-home-cleaned

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National Library of Medicine-Mold website http://www.nlm.nih.gov/medlineplus/molds.html

California Department of Health Services (CADOHS)

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/Mold.aspx

Minnesota Department of Health

http://www.health.state.mn.us/divs/eh/indoorair/mold/index.html

New York City Department of Health and Mental Hygiene <a href="https://www1.nyc.gov/site/doh/health/health-topics/mold.page">https://www1.nyc.gov/site/doh/health/health-topics/mold.page</a>

H.R.: The United States Toxic Mold Safety and Protection Act

## **EPA**

"Should You Have the Air Ducts in Your Home Cleaned?" <a href="http://www.epa.gov/iag/pubs/airduct.html">http://www.epa.gov/iag/pubs/airduct.html</a>

General information about molds and actions that can be taken to clean up or prevent a mold problem.

<a href="http://www.epa.gov/asthma/molds.html">http://www.epa.gov/asthma/molds.html</a>

"A Brief Guide to Mold, Moisture, and Your Home" - Includes basic information on mold, cleanup guidelines, and moisture and mold prevention http://www.epa.gov/mold/moldguide.html

"Mold Remediation in Schools and Commercial Buildings" - Information on remediation in schools and commercial property, references for potential mold and moisture remediators. https://www.epa.gov/mold/mold-remediation-schools-and-commercial-buildings-guide

## **FEMA**

"Homes That Were Flooded May Harbor Mold Problems" - Information and tips for cleaning mold.

http://www.fema.gov/news-release/homes-were-flooded-may-harbor-mold-problems

"Dealing With Mold & Mildew in Your Flood Damaged Home. http://www.fema.gov/pdf/rebuild/recover/fema\_mold\_brochure\_english.pdf



3303 PARKWAY CENTER COURT Orlando, FL 32808

Phone: (407) 599-5887 Fax: (407) 599-9063 Web: http://www.EMSL.com Email:orlandolab@emsl.com

Attn: Debbie Koontz
DK Environmental
8786 Sonoma Coast Drive
Winter Garden, FL 34787

**EMSL** 

EMSL Order: 342224811 Customer ID: DKEN75 Collected: 11/21/2022 Received: 11/21/2022 Analyzed: 11/21/2022

Proj: 322 NE 12th Avenue Ocala, FL 34470

## 6. Important Terms, Conditions, and Limitations

## A. Sample Retention

Samples analyzed by EMSL will be retained for 60 days after analysis date Storage beyond this period is available for a fee with written request prior to the initial 30 day period. Samples containing hazardous/toxic substances which require special handling will be returned to the client immediately. EMSLreserves the right to charge a sample disposal fee or return samples to the client.

## B. Change Orders and Cancellation

All changes in the scope of work or turnaround time requested by the client after sample acceptance must be made in writing and confirmed in writing by EMSL. If requested changes result in a change in cost the client must accept payment responsibility. In the event work is cancelled by a client, EMSL will complete work in progress and invoice for work completed to the point of cancellation notice. EMSL is not responsible for. holding times that are exceeded due to such changes.

## C. Warranty

EMSL warrants to its clients that all services provided hereunder shall be performed in accordance with established and recognized analytical testing procedures and with reasonable care in accordance with applicable federal, state and local laws. The foregoing express warranty is exclusive and is given in lieu of all other warranties, expressed or implied. EMSL disclaims any other warranties, express or implied, including a warranty of fitness for particular purpose and warranty of merchantability.

## D. Limits of Liability

In no event shall EMSL be liable for indirect, special, consequential, or incidental damages, including, but not limited to, damages for loss of profit or goodwill regardless of the negligence (either sole or concurrent) of EMSL and whether EMSL has been informed of the possibility of such damages, arising out of or in connection with EMSL's services thereunder or the delivery, use, reliance upon or interpretation of test results by client or any third party. We accept no legal responsibility for the purposes for which the client uses the test results. EMSL will not be held responsible for the improper selection of sampling devices even if we supply the device to the user. The user of the sampling device has the sole responsibility to select the proper sampler and sampling conditions to insure that a valid sample is taken for analysis. Any resampling performed will be at the sole discretion of EMSL, the cost of which shall be limited to the reasonable value of the original sample delivery group (SDG) samples. In no event shall EMSL be liable to a client or any third party, whether based upon theories

This report has been prepared by EMSL Analytical, Inc. at the request of and for the exclusive use of the client named in this report. Completely read the important terms, conditions, and limitations that apply to this report.



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of tort, contract or any other legal or equitable theory, in excess of the amount paid to EMSL by client thereunder.

## E. Indemnification

Client shall indemnify EMSL and its officers, directors and employees and hold each of them harmless for any liability, expense or cost, including reasonable attorney's fees, incurred by reason of any third party claim in connection with EMSL services, the test result data or its use by client

8786 Sonoma Coast Drive
Winter Garden, FL 34787
814-243-1927
dkenvironmental@yahoo.com

# CHAIN OF CUSTODY/ANALYSIS REQUEST

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