AMA Analytical Services, Inc.
Focused On Results.

CERTIFICATE OF ANALYSIS
ASTM D7391 Spore Trap Analysis Report

Chain of Custody:	664085	**Job Name:**	Mount Vernon 116, 117, 122	**Date Submitted:**	12-03-2024
Client:	ECS Mid-Atlantic, LLC	**Job Location:**	Not Provided	**Date Analyzed:**	12-04-2024
Address:	14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151	**Job Number:**	47:11652-W:84	**Report Date:**	12-04-2024
Attention:	Lauren Kesslak	**P.O. Number:**	Not Provided	**Date Sampled:**	12/02/2024
				Person Submitting:	William Sargent

AMA Sample #	664085-1
Client ID	OUT1
Analyst ID	TLW
Collection Apparatus	Air-O-Cell
Sample Volume (L)	75
Sample Condition	Acceptable
Debris Loading	2
Location	Outdoors

	Raw Ct.	Trav/Fids	A.S	sp/m³	%
Alternaria					
Ascospores					
Basidiospores	2	15	51	104	14.3%
Bipol / Dresch / Helm					
(~) Chaetomium					
(~) Cladosporium	9	15	51	468	64.3%
Curvularia					
(~) Penicillium/Aspergillus					
Smuts / Periconia / Myxomycetes	2	15	51	104	14.3%
(~) Stachybotrys/Memnoniella					
(~) Ulocladium					
Unknown Fungi					
Bispora					
Botrytis					
Epicoccum	1	15	51	52	7.1%
Other Colorless					
Peronospora / Oidium					
Hyphal Fragments*	1	15	51	52	

Total Raw Ct: 14 **Total spm/m³:** 728

Comments

AMA Sample #	664085-2
Client ID	R116
Analyst ID	TLW
Collection Apparatus	Air-O-Cell
Sample Volume (L)	75
Sample Condition	Acceptable
Debris Loading	3
Location	RM 116

	Raw Ct.	Trav/Fids	A.S	sp/m³	%
Alternaria					
Ascospores					
Basidiospores	3	15	51	155	15.8%
Bipol / Dresch / Helm	1	15	51	51	5.3%
(~) Chaetomium					
(~) Cladosporium	4	15	51	206	21.1%
Curvularia	Present	15	51	< 51	
(~) Penicillium/Aspergillus	3	15	51	155	15.8%
Smuts / Periconia / Myxomycetes	7	15	51	362	36.8%
(~) Stachybotrys/Memnoniella					
(~) Ulocladium					
Unknown Fungi					
Bispora	1	15	51	51	5.3%
Botrytis					
Epicoccum					
Other Colorless					
Peronospora / Oidium					
Hyphal Fragments*	6	15	51	310	

Total Raw Ct: 19 **Total spm/m³:** 980

Comments

AMA Sample #	664085-3
Client ID	R117
Analyst ID	TLW
Collection Apparatus	Air-O-Cell
Sample Volume (L)	75
Sample Condition	Acceptable
Debris Loading	3
Location	RM 117

	Raw Ct.	Trav/Fids	A.S	sp/m³	%
Alternaria	1	15	51	51	1.8%
Ascospores	3	15	51	155	5.5%
Basidiospores	8	15	51	413	14.5%
Bipol / Dresch / Helm	1	15	51	51	1.8%
(~) Chaetomium					
(~) Cladosporium	31	15	51	1603	56.4%
Curvularia					
(~) Penicillium/Aspergillus	1	15	51	51	1.8%
Smuts / Periconia / Myxomycetes	9	15	51	465	16.4%
(~) Stachybotrys/Memnoniella					
(~) Ulocladium					
Unknown Fungi					
Bispora					
Botrytis	1	15	51	51	1.8%
Epicoccum					
Other Colorless					
Peronospora / Oidium					
Hyphal Fragments*	7	15	51	362	

Total Raw Ct: 55 **Total spm/m³:** 2840

Comments

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Address:	14026 Thunderbolt Place Suite 100 Chantilly Virginia 20151	**Job Number:**	47:11652-W:84	**Report Date:**	12-04-2024
Attention:	Lauren Kesslak	**P.O. Number:**	Not Provided	**Date Sampled:**	12/02/2024
				Person Submitting:	William Sargent

AMA Sample #	664085-4
Client ID	R122
Analyst ID	TLW
Collection Apparatus	Air-O-Cell
Sample Volume (L)	75
Sample Condition	Acceptable
Debris Loading	3
Location	RM 122

	Raw Ct.	Trav/Fids	A.S	sp/m³	%
Alternaria					
Ascospores	1	15	51	51	.6%
Basidiospores	3	15	51	155	1.9%
Bipol / Dresch / Helm					
(~) Chaetomium					
(~) Cladosporium	136	13	59	8115	86.1%
Curvularia					
(~) Penicillium/Aspergillus	18	15	51	930	11.4%
Smuts / Periconia / Myxomycetes	Present	15	51	< 51	
(~) Stachybotrys/Memnoniella					
(~) Ulocladium					
Unknown Fungi					
Bispora					
Botrytis					
Epicoccum					
Hyphal Fragments*	7	15	51	362	

Total Raw Ct: 158 **Total spm/m³:** 9251

Comments

AMA Sample #	664085-5
Client ID	OUT2
Analyst ID	TLW
Collection Apparatus	Air-O-Cell
Sample Volume (L)	75
Sample Condition	Acceptable
Debris Loading	2
Location	Outdoors

	Raw Ct.	Trav/Fids	A.S	sp/m³	%
Alternaria					
Ascospores	2	15	51	103	2.9%
Basidiospores	9	15	51	465	13%
Bipol / Dresch / Helm					
(~) Chaetomium					
(~) Cladosporium	25	15	51	1292	36.2%
Curvularia					
(~) Penicillium/Aspergillus	26	15	51	1344	37.7%
Smuts / Periconia / Myxomycetes	4	15	51	206	5.8%
(~) Stachybotrys/Memnoniella					
(~) Ulocladium					
Unknown Fungi	1	15	51	51	1.4%
Bispora					
Botrytis					
Epicoccum					
Other Colorless	1	15	51	51	1.4%
Peronospora / Oidium	1	15	51	51	1.4%
Hyphal Fragments*	1	15	51	51	

Total Raw Ct: 69 **Total spm/m³:** 3563

Comments

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Attention:	Lauren Kesslak	**P.O. Number:**	Not Provided	**Date Sampled:**	12-02-2024
				Person Submitting:	William Sargent

General Comments, Disclaimers, and Footnotes

Analytical Method: Sample are analyzed following the instructions and guidelines outlined in ASTM 7391-09.

Sample Condition: Acceptable: The sample was collected and delivered to the our location without disturbing the material on the sampling media. Unacceptable: 1. The sample trace (TR) has been disturbed. 2. The sample was damaged or otherwise unsuitable for analysis. 0 = No particulate matter detected; 1= >nd-~5% Particulate Loading; 2 = ~5%-25% Particulate Loading; 3 = ~25%- 75% Particulate Loading; 4 = ~75%-90% Particulate Loading; 5 = >90% Particulate Loading

Spore Notes: Based on their small size and very few distinguishing characteristics, Aspergillus and Penicillium cannot be differentiated by non-viable sampling methods. There are other types of spores whose morphology is similar to Aspergillus and Penicillium and cannot be differentiated by non-viable sampling methods. Examples of these similar spores are Acremonium, Paecilomyces, Wallemia, Trichoderma, Scopulariopsis, and Gliocladium. Smuts, Periconia and Myxomycetes are three different types of genera that have similar morphological characteristics. Bipolaris/Dreschlera/Helm: Bipolaris / Dreschlera / Helminthosporium are three different types of genera that have similar morphological characteristics. Other Colorless represents all colorless spores that are non-distinctive and unidentifiable. Hyphal Fragments: A portion of the mycelium that becomes separated from the remainder of the thallus (vegetative body), each of which has the capacity to grow and form new individuals. Results for hyphal fragments are in fragments/m^3 and are not incorporated in the total spore concentration.
The tilde symbol (~) refers to water-intrusion indicator spores. These fungal spores, when found on indoor air samples, can be an indication of moisture sources and resultant fungal growth that may be problematic.

Quantification: Analytical Sensitivity (A.S.): This is dependent on the volume of air collected, size of the trace, ocular diameter, and the amount of the trace that was analyzed. The value of "Present" indicated in the Raw Count column represents the presence of this spore type during the preliminary exam at 400x. The Raw Count converts to a whole number if the spore type is encountered again during the 600x-1,000x enumeration. The sp/m^3 concentration will be reported as less than the analytical sensitivity if "Present" is reported in the Raw Count. Results are reported to 3 significant figures. sp/m^3: Spores per cubic meter. Uncertainty: for raw count in the range of 0-50 the SR is 0.266, 51-100 SR=0.325, 101-200 SR=0.193, >200 SR=0.125 All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.
Analyst(s): Tristan Ward

Technical Director _____
Tristan Ward

This report applies only to the sample(s) analyzed as received and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter, nor shall it be reproduced, except it full, without prior written authorization from us. Sample types, locations, collection protocols, air volumes and/or surface wipe area measurements are based upon information provided by the person(s) submitting them, and unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information and for analytical results calculated based on this information. Residual sample material will be discarded in accordance wit the appropriate regulatory guidelines, unless otherwise requested by the client. NVLAP accreditation applies only to polarized light microscopy of bulk samples and transmission electron microscopy of AHERA air samples. This report must not be used to claim, and does not imply product certification, approval, or endorsement, by NY ELAP, MDE, AIHA-LAP, NVLAP, NIST, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.

MOLD SPORE DESCRIPTIONS

Alternaria

Alternaria is ubiquitous in the environment and are normal agents of decay and decomposition. The spores are airborne and common outdoors than indoors isolated from plants, soil, and food. Indoors, the spores are found in house dust, carpets, textiles, wallboard and window frames. The production of melanin-like pigment is one of its major identifying characteristics. The club-shaped spores (conidia) are single or in long chains. They can grow thick colonies with grayish-white surfaces at the beginning which later darken to greenish black or olive brown colors. Health Effects: Allergies are common, but serious infections are rare, except in people with compromised immune systems. Certain species of this genus are often prolific producers of a variety of toxic compounds whose effects on human health are not well known.

Ascospores

Ascospores are spores formed inside an ascus (asci-plural) or sac-like cell which is contained inside a fruiting body called an ascocarp or an ascoma (ascomata-plural). An ascus typically contains a definite nuimber of ascospores, usually eight. Ascospores are unique in shape, size, and color as to the Genus/species they represent. These spores are specific to fungi classified as Ascomycetes. They are ubiquitous in nature. Many decay organic matter, others are plant or animal pathogens. They can grow indoors on damp materials. Release of ascospores are released by forcible ejection and dispersed by wind, water, animals and other agents. Health Effects: Depending on the Genera, Ascospores may be allergenic.

Basidiospores

Basidiospores are reproductive spores produced by a group of fungi called basidiomycetes. This group includes the mushrooms, shelf fungi and various other macrofungi. Basidipspores serve as the main air (wind) dispersal units for the fungi and their release is dependent upon moisture. The structure of the spore complex can develop in various manners resulting in different appearances. It is often found growing in soil, decaying plant debris, compost piles and fruit rot. Indoors, it can be found on water damaged building materials (chipboard /OSB, plywood, wallpaper, and glue) as well as on food items (dried foods, cheeses, fruits, herbs, spices, cereals). Health effects: Some basidiospores may produce toxins and can act as allergens. They have not been reported to be pathogens.

Bipol / Dresch / Helm

Bipolaris, Drechslera, and Helminthosporium are found on grasses, grains, various plants, and decaying food. They tend to grow in semi-dry environments and some species can be found indoors. Because of their microscopic similarities, these three genera are grouped together on both viable and non-viable analysis. Microscopically, the spores are cylindrical, fusiform, or club-shaped with protrusions, Health Effects: Can cause hay fever and asthma, allergic fungal sinusitis, and pathogenic sinusitis.

Botrytis

Botrytis is a cosmopolitan fungus and often isolated from regions with humid climates. It is found in soil and vegetables. It is reported to be parasitic on plants and soft fruits. Colonies grow rapidly, appearing woolly, white at first and then becoming gray to brown. Microscopically, conidiophores are large with apical branches terminating in vesicles where blastoconidia are produced (tree-like branches). It is reported to be allergenic.

MOLD SPORE DESCRIPTIONS

Cladosporium

Cladosporium is the most common indoor and outdoor mold. The spores are wind dispersed and are often extremely abundant in outdoor air. Many species are commonly found on living and dead plant material. Indoors, they may grow on surfaces with high moisture or high humidity levels such as damp window sills, poorly ventilated bathrooms and soiled refrigerators. It produces powdery or velvety olive-green to brown or black colonies. The conidia (spores) vary depending on the species and are formed in simple or branching chains with multi-attachment points. Health Effects: Cladosporium species are rarely pathogenic to humans, but have been reported to occassionally cause sinusitis and pulmonary infections as well as infections of the skin and toenails. The airborne spores are significant allergens, and in large amounts they may severely affect asthmatics and people with respiratory diseases.

Curvularia

Curvularia is a ubiquitous, wind dispersed hyphomycete (mold) fungus more commonly found in tropical, subtropical regions. It is often found outside growing in soil, seeds, plant litter, and decaying plants as well as on leaves. Indoors, it is found on a variety of building materials, especially those with cellulose surfaces. Colonies are olive-green to brown or black, with pinkish gray woolly surfaces. The conidia (spores) are large and appear curved due to expanded central cells. This feature and the presence of edge to edge septations on the conidia walls distinguishes Curvularia from Bipolaris. Health Effects: This mold is a potential allergen. Some people may experience hay fever, asthma and or allergic fungal sinusitis.

Epicoccum

Epicoccum is a cosmopolitan fungus that is often found growing outside in soil, plant litter, decaying plants, and damaged plant tissue. Indoors, it can be found growing on a variety of building materials including paper and textiles. Colonies have a rapid growth rate with cottony texture, initially yellow or orange becoming brown to black in color. Conidiophores or fruiting bodies produce dense masses where conidia (spores) arise. Spores are round to pear-shaped, smooth to warty, brown to black in color and muriform (partitioned in both directions, like a soccer ball). Health Effects: This mold can act as a potential allergen. Some people may experience hay fever and or asthma. This mold has not been linked to any human or animal infection.

Hyphal Fragments

Hyphal Fragments are segments or pieces of hyphae or mycelium that may have broken off during sampling (air, tape, dust). The mycelium is the entire mass of hyphae that makes up the vegetative body of a fungus. The presence of hyphal fragments may indicate the presence of viable mold.

Other Colorless

“Other Colorless” are all non-distinctive, unidentifiable, colorless spores seen on spore trap samples and include all the genera that do not have distinguishing morphology to belong to any of the other defined categories.

MOLD SPORE DESCRIPTIONS

Pen / Asp Like

Penicillium and Aspergillus are ubiquitous, filamentous fungi that are found in soil, decaying plant debris, compost piles, and in the air. Indoors, spores are commonly found in house dust, in water-damaged buildings (wallpaper, wallpaper glue, decaying fabrics, moist chipboards, and behind paint) as well as fruit and grains. They are the most common fungal genera, worldwide. Both produce chains of spores that are small, round to oval, colorless or slightly pigmented, and smooth to rough walled. These spores are indistinguishable between the two as well as other genera, such as Gliocladium, Trichoderma, Paecilomyces, and Scopulariopsis. They differ as to their conidiophores or fruiting bodies. While, Aspergillus spores are produced from phialides supported on conidia heads or swollen vesicles, Penicillium spores are produced on finger-like projections. Depending on species, typical colonies of Aspergillus are initially white and later turn to either shades of green, yellow, orange, brown or black. Texture is usually velvety to cottony. Typical colonies of Penicillium, other than Penicillium marneffei (yeast-like at 37oC), grow rapidly, white in color at first, later becoming bluish green with white borders with velvety to powdery textures depending on species. Some species produce radial patterns. Health Effects: Both Aspergillus and Penicillium are potential allergens. Several species of Aspergillus (A. flavus and A. parasiticus) produce aflatoxins or natually occurring mycotoxins that are toxic and carcinogenic. These are found in contaminated foodstuff and are hazardous to consumers. Penicillium has only one known species that is pathogenic to humans (P. marneffei) that causes lethal systemic infection (Penicilliosis) in immunocompromised individuals.

Peronospora / Oidium

Peronospora and Oidium are plant pathogens that cause downey or powdery mildew (a disease that affects a wide range of plants). Both affect the leaves, stems, flowers, and fruits of plants and trees. They have distinctive morphologies. The spores may also be seen in dust as part of the normal influx of outdoor microbial particles. Health Effects: No information is available regarding health effects or toxicity.

Smuts / Periconia / Myxomycetes

Smuts, Periconia, and Myxomycetes spores are grouped together due to their similar round, brown morphology. Smuts are outdoor parasitic plant pathogens. They rarely grow indoors but may grow on host plants if appropriate conditions are present. They are parasitic plant pathogens. They can be found on cereal crops, grasses, flowing plants, weed, and other fungi. They can cause allergies. Periconia are found in soils, dead herbaceous stems and leaf spots, and grasses. They have wind dispersed dry spores. Their spores are abundant in the air but it is not known if they are allergenic. Myxomycetes are found on decaying logs, stumps and dead leaves. They have wind-dispersed dry spores and wet motile (amoebic phase) spores. During favorable conditions they move about like amoebae. They form dry airborne spores when conditions are unfavorable. They are rarely found indoors. Health Effects: They may cause Type 1 allergies (hay fever, asthma). No human infections have been reported.

AMA Analytical Services, Inc.
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(301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This Number For Inquires)

664085

AMA Client Information:
1. Client Name: ECS Mid-Atlantic LLC
2. Address 1: Chantilly
3. Address 2:
4. Billing Email:
5. Phone #:

Submittal Information:
1. Job Name: Mount Vernon ~~[illegible]~~ 116, 117, 122
2. Job Location ~~[illegible]~~
3. Job #: 47:11652-WI:84 PO#:
4. Contact Person: Lauren Kesslak Cell: (202) 494-7649
5. Collected by: William Sargent Cell: (202) 570-0898

If a TAT is not provided, AMA will assign a default of 5-Day. **Reports and Invoices provided by Email only.**

AFTER HOURS (must be pre-scheduled)
☐ 4 Hours ☐ Late Night
☐ Immediate Date Due:
☐ 24 Hours Time Due:
Comments:

NORMAL BUSINESS HOURS
☐ 4 Hours
~~☐ Same Day (6-8 Hours)~~
☒ 1 Day
☐ 2 Day
☐ 3 Day
☐ 5 Day + 12/4
Date Due: ~~12/3/24~~
☐ Results Required By Noon

REPORT TO:
☒ Email 1: lkesslak@ecslimited.com
☐ Email 2:
☐ Email 3:

Asbestos Analysis
*PCM Air – Please Indicate Filter Type:
☐ NIOSH 7400 (QTY)
*TEM Air – Please Indicate Filter Type:
☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) (QTY)
PLM Bulk
☐ EPA 600 – Visual Estimate (QTY) ☐ Pos Stop
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) (QTY)
MISC
☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)

TEM Bulk
☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)
☐ Vermiculite (QTY)
TEM Dust*
☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area)Dust D6480-99 (QTY)
TEM Water
☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☐ All samples received in good condition unless otherwise noted.
(TEM Water samples °C) **(For Lab Use Only)**

If field data sheets are submitted, there is no need to complete bottom section.
*It is recommended that blank samples be submitted with all air and surface samples

Metals Analysis
☐ Pb Paint Chip ☐ % by Weight (QTY) ☐ mg/kg (QTY)
☐ *Pb Dust Wipe (QTY) (Samples collected using ASTM approved media ☐)
☐ *Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY)
☐ Pb Furnace (Media) (QTY)

Fungal Analysis
☒ *Spore-Trap 5 (QTY)
☐ *Surface Swab (QTY)
☐ *Surface Tape (QTY)
☐ Other (Specify) (QTY)
☐ Surface Vacuum Dust (QTY)
Collection Apparatus for Spore Traps/Air Samples: Air-5 Pro-D
Collection Media Air

SAMPLE INFORMATION

SAMPLE #	MATERIAL and/or LOCATION DESCRIPTION	DATE (m/d/yyyy)	TIME (hh:mm)	VOL (L) (Air Samples)	Wipe Area (Dust Samples)	TEM	PCM	PLM	LEAD	MOLD	COMMENTS/SPECIAL INSTRUCTIONS
OUT 1	Outdoors	12/2/24	14:15	75L						X	
R116	Room 116	↓	14:44	↓						X	
R117	Room 117		14:51							X	
R122	Room 122		15:02							X	
OUT 2	Outdoors	↓	16:52	↓						X	

	Print Name	Signature	Date: m/d/yyyy	Time: hh:mm	Delivery Information (For Lab Use Only)
*Relinquished by:	William Sargent	[signature]	12/2/2024	6:30 PM	☐ UPS ☐ In-Person ☐ Other ☐ FedEx ☒ Drop Box ☐ USPS ☐ Courier
Received by:	JV	[signature]	12/3	6:00	