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Mycology Taxonomy Report
Thursday, July 07, 2005

Via e-mail/facsimile

Client Name
Client Address

Sample Report

Report
Cover
Sheet

Environmental & Analytical Management, Inc. (eamlabs.com) received samples for the **Sample Report** Project collected on February 12, 2005 for microbiological taxonomy services. Samples were entered into the eamlabs.com Laboratory Information Management System. Samples were observed microscopically to determine the type and quantity of organisms. The results are described and tabulated in this report consisting of 4 pages. Unless otherwise noted, the results were not corrected for blanks. The results of this report apply only to the samples analyzed.

Quality Assurance/Quality Control

The media used included sterile malt extract agar (MEA) petri dishes. The MEA used for this sampling event was created by EAM on January 28, 2005. The Laboratory Media Corporation, Batavia, Illinois MEA Lot #11244 expires in 2006. The positive control was inoculated with American Type Culture #6275, *aspergillus niger*. The appearance, sterility, performance and pH met or exceeded QA limits.

eamlabs.com staffs ASCP certified microbiologists that conduct mycology taxonomy procedures. We purchase, colonize and identify certified American Type Culture Collection organisms to monitor the quality of our media. eamlabs.com also keeps blank samples of media lots generated. eamlabs.com participates in the Environmental Proficiency Analytical Testing (EMPAT) program.

EAM conducts analytical and taxonomy procedures in accordance with usual and customary procedures. These procedures are referenced in NIOSH, AIHA, USEPA, OSHA and EAM's AIHA QA Manual. Samples were received in good condition by eamlabs.com on February 12, 2005. The chain-of-custody reflected the samples received and sample analysis parameters. Sample analysis and/or sampling media preparation was performed without any QA exceedances. The report was completed on February 13, 2005.

The following information is based on EAM's technical library. All references are listed at www.eamlabs.com.

Should you have any questions, please feel free to contact us at your earliest convenience.

Sincerely,

Sven Pavlovics, Environmental Scientist,
President

eamlabs.com

Technician Signature

MOLD TAXONOMY REPORT

Project: Sample Report 890

Report Table Option 1

Lab ID File No.	890-1	890-2	890-3	890-4	890-5	890-6	890-7	890-8	890-9	890-10
Sample ID	Outdoor Spore Trap	Living Room A/C S/T	Master B/R Air S/T	Hall S/T	Family Room S/T	Couch Tape	Guest B/R N Wall S/T	under window Tape	Daughter's B/R B-Z S/T	Daughter's B/R Closet Tape
Date Sampled	2/12/2005	2/12/2005	2/12/2005	2/12/2005	2/12/2005	2/12/2005	2/12/2005	2/12/2005	2/12/2005	2/12/2005
Date Analyzed	2/13/2005	2/13/2005	2/13/2005	2/13/2005	2/13/2005	2/13/2005	2/13/2005	2/13/2005	2/13/2005	2/13/2005
UNITS	Spores/m ³	Spores/m ³	Spores/m ³	Spores/m ³	Spores/m ³	Spores/cm ²	Spores/m ³	Spores/cm ²	Spores/m ³	Spores/cm ²
<i>*Acronium spp.</i>										
<i>Alternaria spp.</i>										
<i>Amerospores</i>	261								218	
<i>*Aspergillus spp.</i>										
<i>*Bipolaris spp.</i>										
<i>*Chaetomium spp.</i>										
<i>Cladosporium spp.</i>	697	653	161	610						3720
<i>Curvularia spp.</i>	44									
<i>Dematiaceous mold.</i>							44			
<i>Fusarium spp.</i>										
<i>Ganoderma spp.</i>		87								
<i>*Penicillium spp.</i>										
<i>Phoma spp.</i>										
<i>Rhizopus spp.</i>										
<i>*Stachybotrys spp.</i>			784	161			87	3720		
<i>*Trichoderma spp.</i>										
<i>Verticillium</i>										
<i>Sterile mycelium</i>										
<i>*Asperg/Penicill-like spores</i>	348	653	80	610	5430	3720		193000	479	1120
<i>Unidentified Conidia</i>										
<i>Mycelial Fragments</i>										
<i>Detection Limit</i>	7	7	13	13	22	1	7	1	7	1
<i>Debris Factor</i>	3	2	3	3	1		3		3	
Total	1350	1393	1025	1381	5430	3720	131	196720	697	4840

S/T = Spore Trap

Debris Factor: 5 = 100% of field, 4 = 80% of field, 3 = 60% of field, 2 = 40% of field, 1 =< 10%

UNITS: Tape or Surface sampling = Spores/cm² = Spores/centimeters squared

Impaction Sampling Device = Spores/m³ = Spores/cubic meters of air

Bulk and Bulk Samples = Spores/g = Spores/ gram

1-877-666-0954

Asterisk (*) indicates that strains of the mold produce known toxins.

TNTC= Too Numerous To Count
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Swab: Light 10-30%
Medium 31-60%,
Heavy 61-100%

MOLD TAXONOMY REPORT

Project: Sample Report 890

Report Table Option 2

Lab ID File No.	890-1	890-2	890-3	890-4	890-5	890-6
Sample ID	Living			Family		
	Outdoor Spore Trap	Room A/C S/T	Master B/R Air S/T	Hall S/T	Room S/T	Couch Tape
Date Sampled	2/12/2005	2/12/2005	2/12/2005	2/12/2005	2/12/2005	2/12/2005
Date Analyzed	2/13/2005	2/13/2005	2/13/2005	2/13/2005	2/13/2005	2/13/2005
UNITS	Spores/m ³	Spores/m ³	Spores/m ³	Spores/m ³	Spores/m ³	Spores/cm ²
<i>*Acremonium spp.</i>						
<i>Alternaria spp.</i>						
<i>Amerospores</i>	261					
<i>*Aspergillus spp.</i>						
<i>Beauveria spp.</i>						
<i>*Bipolaris spp.</i>						
<i>*Chaetomium spp.</i>						
<i>Chrysosporium spp.</i>						
<i>Cladosporium spp.</i>	697	653	161	610		
<i>Curvularia spp.</i>	44					
<i>Dematiaceous mold.</i>						
<i>*Fusarium spp.</i>		87				
<i>Ganoderma spp.</i>						
<i>Nigrospora spp.</i>						
<i>*Paecilomyces spp.</i>						
<i>*Penicillium spp.</i>						
<i>Phialophora spp.</i>						
<i>Phoma spp.</i>						
<i>Pyrenochaeta spp.</i>						
<i>Rhizopus spp.</i>						
<i>Scopulariosis spp.</i>						
<i>Sporothrix spp.</i>						
<i>*Stachybotrys spp.</i>			784	161		
<i>*Trichoderma spp.</i>						
<i>Sterile mycelium</i>						
<i>Verticillium</i>						
<i>*Asperg/Penicill-like spores</i>	348	653	80	610	5430	3720
<i>Unidentified Conidia</i>						
<i>Mycelial fragments</i> count						
Detection Limit	7	7	13	13	22	1
Debris Factor 5<1	3	2	3	3	1	
Total	1350	1393	1025	1381	5430	3720

1 Debris Factor: 5 = 100% of field, 4 = 80% of field, 3 = 60% of field, 2 = 40% of field, 1 =< 10%

UNITS: Tape or Surface sampling = Spores/cm² = Spores/centimeters squared

Impaction Sampling Device = Spores/m³ = Spores/cubic meters of air

Bulk and Dust Samples = Spores/g = Spores/ gram

Raw Data = Total no. of spores found on sample.

Asterisk (*) indicates that strains of the mold produce known toxins.

TNTC= Too Numerous To Count

Optional Genera Descriptions

Table 1 – A description of molds identified and potential health risks.

MOLD GENUS: <i>ASPERGILLUS SPP.</i>		
ALLERGENS	DISEASES	TOXICITY
Spores produced by molds are common allergens. Allergens cause coughing, asthma attacks, headaches, nasal congestion and respiratory attacks. Spores will grow and proliferate, producing millions of additional spores.	Species of <i>Aspergillus</i> are opportunistic invaders, causing infections and inflammation.	Some species produce toxic Ochratoxins and Aflatoxins B1, B2, G1, G2, M1, M2. These toxins produce symptoms ranging from growth stunting, skin irritation, fever, wheezing, breathlessness, cough and ulcers. Pulmonary mycotoxicoses is a disease that occurs when fungal hyphae and spores are inhaled. Has been linked to increase cancer risk in humans.

MOLD GENUS: <i>CLADOSPORIUM SPP.</i>		
ALLERGENS	DISEASES	TOXICITY
Spores produced by molds are common allergens. Allergens cause coughing, asthma attacks, headaches, nasal congestion and respiratory attacks. Spores will grow and proliferate, producing millions of additional spores.	Causes skin lesions, eye, nasal and lung infections. Lesions develop on hands, head, lower trunk and can spread to the central nervous systems, lungs and muscular tissues.	Unknown at present time.

MOLD GENUS: <i>PENICILLIUM SPP.</i>		
ALLERGENS	DISEASES	TOXICITY
Spores produced by molds are common allergens. Allergens cause coughing, asthma attacks, headaches, nasal congestion and respiratory attacks. Spores will grow and proliferate, producing millions of additional spores.	Species of <i>penicillium</i> are opportunistic invaders, causing eye infections and inflammation.	Some species produce toxic Aflatoxins. These toxins produce symptoms ranging from growth stunting, skin irritations, fever, wheezing, breathlessness, cough and ulcers. Pulmonary mycotoxicoses is a disease that occurs when fungal hyphae and spores are inhaled.

MOLD GENUS: <i>STACHYBOTRYS SPP.</i>		
ALLERGENS	DISEASES	TOXICITY
Spores produced by molds are common allergens. Allergens cause coughing, asthma attacks, headaches, nasal congestion and respiratory attacks. Spores will grow and proliferate, producing millions of additional spores. Spores can also carry toxins if present.	Unknown.	Some species produce potent toxic toxins including satratoxins H, and F, roridin E, verrucarins J and Trichoverols A and B. Human symptoms to toxin exposure include adverse effects on the central nervous system, eyes, skin and upper and lower respiratory tract, and chronic fatigue. Other adult symptoms include immune suppression, bleeding and adverse reproductive effects. <i>Stachybotrys</i> have been linked to cases of infant death syndrome and nose, throat and lung bleeding. In Cleveland, Ohio, 45 cases of lung bleeding were reported in young infants, 16 died. Most cases occurred in a 10 zip code area and found that several lines of evidence indicate the toxins were produced by <i>stachybotris chararum</i> .