

The following samples were collected from Martin Hall rooms:

- 007
- 158 – front of the room
- 158 – center of the room
- Roof
- 254
- 254-8
- Martin Hall Air Handler (MHAH)
– in the courtyard



Report for:

Mr. Chad Johnson
Eastern Washington University
EH&S, 002 Martin Hall
Cheney, WA 99004

Regarding: Project: MAR
EML ID: 1932410

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis: 05-23-2018

Service SOPs: Spore trap analysis (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #102297

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Client: Eastern Washington University
C/O: Mr. Chad Johnson
Re: MAR

Date of Sampling: 05-21-2018
Date of Receipt: 05-23-2018
Date of Report: 05-23-2018

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	1: 2602-7871 007		2: 2602-7866 158 Front		3: 2602-7869 158 Cent		4: 2602-7879 Roof	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	9090903-1		9090905-1		9090907-1		9090909-1	
Analysis Date:	05/23/2018		05/23/2018		05/23/2018		05/23/2018	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores			1	53	1	53	8	430
Basidiospores	8	430	4	210	1	53	8	430
Chaetomium								
Cladosporium					3	160	29	1,500
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Oidium								
Other colorless								
Penicillium/Aspergillus types†					1	53		
Pithomyces								
Rusts								
Smuts, Periconia, Myxomycetes	1	13	1	13			28	370
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	2+		2+		1+		3+	
Hyphal fragments/m3	< 13		13		< 13		27	
Pollen/m3	< 13		< 13		< 13		110	
Skin cells (1-4+)	< 1+		< 1+		< 1+		< 1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORES/m3		440		280		320		2,800

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

†† Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m³ divided by the raw count, expressed in spores/m³. The limit of detection is the analytical sensitivity (in spores/m³) multiplied by the sample volume (in liters) divided by 1000 liters.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

§ Total Spores/m³ has been rounded to two significant figures to reflect analytical precision.

Client: Eastern Washington University
C/O: Mr. Chad Johnson
Re: MARDate of Sampling: 05-21-2018
Date of Receipt: 05-23-2018
Date of Report: 05-23-2018**SPORE TRAP REPORT: NON-VIABLE METHODOLOGY**

Location:	5: 2602-7861 254		6: 2602-7890 254-8		7: 2602-7872 MHAH	
Comments (see below)	None		None		None	
Lab ID-Version‡:	9090911-1		9090913-1		9090915-1	
Analysis Date:	05/23/2018		05/23/2018		05/23/2018	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores			1	53	8	430
Basidiospores	2	110			35	1,900
Chaetomium						
Cladosporium			3	160	44	2,300
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Oidium					1	13
Other colorless						
Penicillium/Aspergillus types†			1	53		
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes					8	110
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+		2+		3+	
Hyphal fragments/m3	< 13		< 13		40	
Pollen/m3	< 13		< 13		120	
Skin cells (1-4+)	< 1+		< 1+		< 1+	
Sample volume (liters)	75		75		75	
§ TOTAL SPORES/m3		110		270		4,800

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.

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§ Total Spores/m³ has been rounded to two significant figures to reflect analytical precision.



Report for:

Mr. Chad Johnson
Eastern Washington University
EH&S, 002 Martin Hall
Cheney, WA 99004

Regarding: Project: MAR
EML ID: 1932410

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis: 05-23-2018

Service SOPs: Spore trap analysis (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #102297

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EMLab P&K

1501 West Knudsen Drive, Phoenix, AZ 85027
(800) 651-4802 Fax (623) 780-7695 www.emlab.com

Client: Eastern Washington University
C/O: Mr. Chad Johnson
Re: MAR

Date of Sampling: 05-21-2018
Date of Receipt: 05-23-2018
Date of Report: 05-23-2018

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	1: 2602-7871 007				2: 2602-7866 158 Front				3: 2602-7869 158 Cent				4: 2602-7879 Roof			
Comments (see below)	None				None				None				None			
Lab ID-Version†:	9090903-1				9090905-1				9090907-1				9090909-1			
Analysis Date:	05/23/2018				05/23/2018				05/23/2018				05/23/2018			
Sample volume (liters)	75				75				75				75			
Background debris (1-4+)‡	2+				2+				1+				3+			
	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%	raw ct.	Count/m3	DL/m3*	%
Hyphal fragments					1	13	13	n/a					2	27	13	n/a
Pollen													8	110	13	n/a
§ TOTAL FUNGAL SPORES	9	440	n/a	100	6	280	n/a	100	6	320	n/a	100	73	2,800	n/a	100
Ascospores					1	53	53	19	1	53	53	17	8	430	53	15
Basidiospores	8	430	53	97	4	210	53	76	1	53	53	17	8	430	53	15
Chaetomium																
Cladosporium									3	160	53	50	29	1,500	53	56
Oidium																
Penicillium/Aspergillus types									1	53	53	17				
Rusts																
Smuts, Periconia, Myxomycetes	1	13	13	3	1	13	13	5					28	370	13	13
Stachybotrys																
Stemphylium																
Torula																
Ulocladium																
Zygomycetes																

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity/limit of detection is the Count/m³ divided by the raw count, expressed in Count/m³.

*The detection limit/limit of detection (DL) per cubic meter (m³) has been rounded to two significant figures to reflect analytical precision.

‡ Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

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§ Total Fungal Spores has been rounded to two significant figures to reflect analytical precision.

Client: Eastern Washington University
 C/O: Mr. Chad Johnson
 Re: MAR

Date of Sampling: 05-21-2018
 Date of Receipt: 05-23-2018
 Date of Report: 05-23-2018

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	5: 2602-7861 254				6: 2602-7890 254-8				7: 2602-7872 MHAH			
Comments (see below)	None				None				None			
Lab ID-Version‡:	9090911-1				9090913-1				9090915-1			
Analysis Date:	05/23/2018				05/23/2018				05/23/2018			
Sample volume (liters)	75				75				75			
Background debris (1-4+)††	2+				2+				3+			
	raw ct.	Count/m ³	DL/m ³ *	%	raw ct.	Count/m ³	DL/m ³ *	%	raw ct.	Count/m ³	DL/m ³ *	%
Hyphal fragments									3	40	13	n/a
Pollen									9	120	13	n/a
§ TOTAL FUNGAL SPORES	2	110	n/a	100	5	270	n/a	100	96	4,800	n/a	100
Ascospores					1	53	53	20	8	430	53	9
Basidiospores	2	110	53	100					35	1,900	53	39
Chaetomium												
Cladosporium					3	160	53	60	44	2,300	53	49
Oidium									1	13	13	<1
Penicillium/Aspergillus types					1	53	53	20				
Rusts												
Smuts, Periconia, Myxomycetes									8	110	13	2
Stachybotrys												
Stemphylium												
Tonula												
Ulocladium												
Zygomycetes												

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.

The analytical sensitivity/limit of detection is the Count/m³ divided by the raw count, expressed in Count/m³.

*The detection limit/limit of detection (DL) per cubic meter (m³) has been rounded to two significant figures to reflect analytical precision.

††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

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§ Total Fungal Spores has been rounded to two significant figures to reflect analytical precision.



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Regarding: Project: MAR
EML ID: 1932410

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis other particles-Supplement: 05-23-2018

Service SOPs: Spore trap analysis other particles-Supplement (EM-MY-S-1038)
AIHA-LAP, LLC accredited service, Lab ID #102297

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Client: Eastern Washington University
 C/O: Mr. Chad Johnson
 Re: MAR

Date of Sampling: 05-21-2018
 Date of Receipt: 05-23-2018
 Date of Report: 05-23-2018

OTHER BIOLOGICAL PARTICLES REPORT: NON-VIABLE METHODOLOGY

Location:	1: 2602-7871 007		2: 2602-7866 158 Front		3: 2602-7869 158 Cent		4: 2602-7879 Roof	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	9090904-1		9090906-1		9090908-1		9090910-1	
	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3
POLLEN								
Grass (Poaceae)								
Mulberry (Morus)								
Oak (Quercus)								
Other							8	110
Pine (Pinaceae)								
Ragweed (Ambrosieae)								
Sycamore (Platanus)								
OTHER PLANT								
Algae								
Diatoms								
Fern, moss, etc. spores								
Other (wood, trichomes, etc.)								
OTHER PARTICLES:								
ANIMAL								
Epithelial (skin) cells	57	760	11	150	33	440	3	40
Hair								
Insect parts								
Mites								
FUNGI								
Hyphal fragments			1	13			2	27
NON-BIOLOGICAL								
Cellulose fibers	25	330	9	120	9	120		
Glass fiber	1	13	1	13				
Starch particles	2	27						
Synthetic fibers			1	13				
Background debris (1-4+)†	2+		2+		1+		3+	
Sample volume (liters)	75		75		75		75	

Comments:

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

Carbonaceous particles include soot and other combustion products. In most instances a detailed analysis of soot can be accomplished using scanning electron microscopy.

Note: Interpretation is left to the company and/or persons who conducted the field work.

† Background debris is an indication of the amounts of non-biological particulate matter present on the slide (dust in the air) and is graded from 1+ to 4+ with 4+ indicating the largest amounts. To evaluate dust levels it is important to account for differences in sample volume.

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OTHER BIOLOGICAL PARTICLES REPORT: NON-VIABLE METHODOLOGY

Location:	5: 2602-7861 254		6: 2602-7890 254-8		7: 2602-7872 MHAH	
Comments (see below)	None		None		None	
Lab ID-Version‡:	9090912-1		9090914-1		9090916-1	
	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3
POLLEN						
Eucalyptus (Eucalyptus)						
Grass (Poaceae)						
Mulberry (Morus)						
Oak (Quercus)						
Other					9	120
Pine (Pinaceae)						
Ragweed (Ambrosieae)						
Sycamore (Platanus)						
OTHER PLANT						
Algae						
Diatoms						
Fern, moss, etc. spores						
Other (wood, trichomes, etc.)						
OTHER PARTICLES:						
ANIMAL						
Epithelial (skin) cells	31	410	17	230	4	53
Hair						
Insect parts						
Mites						
FUNGI						
Hyphal fragments					3	40
NON-BIOLOGICAL						
Cellulose fibers	16	210	21	280	3	40
Glass fiber						
Starch particles						
Synthetic fibers						
Background debris (1-4+)†	2+		2+		3+	
Sample volume (liters)	75		75		75	

Comments:

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

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 Aerotech Laboratories, Inc