Air-O-Cell sampling of fiber and mold conducted on 01/04/2019 for the following areas of MAR and WAL Halls:

Sample Number	Location
27335477	MAR 247
27363030	MAR 114
27335475	MAR 002
27363125	MAR Outside Air Intake
27335500	WAL 232 for comparison

EMLab P&K
A TestAmerica Company

Report for:

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

Regarding: Project: Mariwal
EML ID: 2072130

Approved by:

Joshua T. Cox

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis: 01-10-2019

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

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: Mariwal

Date of Sampling: 01-04-2019
Date of Receipt: 01-08-2019
Date of Report: 01-10-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	27335500: WAL 232		27335477: MAR 247		27363030: MAR 114		27335475: MAR 002 Common		27363125: MAR Air Intake	
Comments (see below)	None		None		None		None		None	
Lab ID-Version‡:	9789259-1		9789261-1		9789263-1		9789265-1		9789267-1	
Analysis Date:	01/10/2019		01/10/2019		01/10/2019		01/10/2019		01/10/2019	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores					1	53			4	210
Basidiospores			1	13	1	53	2	110	1	53
Chaetomium										
Cladosporium					1	53			31	1,700
Epicoccum									2	27
Fusarium										
Myrothecium										
Nigrospora										
Oidium									35	470
Other brown									2	27
Other colorless										
Penicillium/Aspergillus types†	1	13								
Pithomyces										
Rusts										
Smuts, Periconia, Myxomycetes			1	13	11	150			4	53
Stachybotrys										
Stemphylium										
Torula										
Ulocladium										
Zygomycetes										
Background debris (1-4+)††	1+		1+		2+		4+		2+	
Hyphal fragments/m3	13		< 13		< 13		< 13		40	
Pollen/m3	< 13		< 13		< 13		< 13		< 13	
Skin cells (1-4+)	< 1+		1+		1+		1+		< 1+	
Sample volume (liters)	75		75		75		75		75	
§ TOTAL SPORES/m3		13		27		310		110		2,500

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/m^3 divided by the raw count, expressed in spores/m^3. The limit of detection is the analytical sensitivity (in spores/m^3) 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.

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EML ID: 2072130

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Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis: 01-10-2019

Service SOPs: Spore trap analysis (EM-MY-S-1038)
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Date of Sampling: 01-04-2019
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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	27335500: WAL 232				27335477: MAR 247				27363030: MAR 114			
Comments (see below)	None				None				None			
Lab ID-Version‡:	9789259-1				9789261-1				9789263-1			
Analysis Date:	01/10/2019				01/10/2019				01/10/2019			
Sample volume (liters)	75				75				75			
Background debris (1-4+)††	1+				1+				2+			
	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								
Pollen												
§ TOTAL FUNGAL SPORES	1	13	n/a	100	2	27	n/a	100	14	310	n/a	100
Ascospores									1	53	53	17
Basidiospores					1	13	13	50	1	53	53	17
Chaetomium												
Cladosporium									1	53	53	17
Epicoccum												
Oidium												
Other brown												
Penicillium/Aspergillus types	1	13	13	100								
Smuts, Periconia, Myxomycetes					1	13	13	50	11	150	13	48
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												

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/m^3 divided by the raw count, expressed in Count/m^3.

*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.

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

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Re: Mariwal

Date of Sampling: 01-04-2019
Date of Receipt: 01-08-2019
Date of Report: 01-10-2019

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	27335475: MAR 002 Common				27363125: MAR Air Intake			
Comments (see below)	None				None			
Lab ID-Version‡:	9789265-1				9789267-1			
Analysis Date:	01/10/2019				01/10/2019			
Sample volume (liters)	75				75			
Background debris (1-4+)††	4+				2+			
	raw ct	Count/m3	DL/m3*	%	raw ct	Count/m3	DL/m3*	%
Hyphal fragments					3	40	13	n/a
Pollen								
§ TOTAL FUNGAL SPORES	2	110	n/a	100	79	2,500	n/a	100
Ascospores					4	210	53	9
Basidiospores	2	110	53	100	1	53	53	2
Chaetomium								
Cladosporium					31	1,700	53	66
Epicoccum					2	27	13	1
Oidium					35	470	13	19
Other brown					2	27	13	1
Penicillium/Aspergillus types								
Smuts, Periconia, Myxomycetes					4	53	13	2
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								

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/m^3 divided by the raw count, expressed in Count/m^3.

*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.

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

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Report for:

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

Regarding: Project: Mariwal
EML ID: 2072130

Approved by:

Joshua T. Cox

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis other particles-Supplement: 01-10-2019

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

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: Mariwal

Date of Sampling: 01-04-2019
Date of Receipt: 01-08-2019
Date of Report: 01-10-2019

OTHER BIOLOGICAL PARTICLES REPORT: NON-VIABLE METHODOLOGY

Location:	27335500: WAL 232		27335477: MAR 247		27363030: MAR 114		27335475: MAR 002 Common		27363125: MAR Air Intake	
Comments (see below)	None		None		None		None		None	
Lab ID-Version‡:	9789260-1		9789262-1		9789264-1		9789266-1		9789268-1	
	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3	raw ct.	particles/m3
POLLEN										
Grass (Poaceae)										
Mulberry (Morus)										
Oak (Quercus)										
Other										
Pine (Pinaceae)										
Ragweed (Ambrosieae)										
Sycamore (Platanus)										
OTHER PLANT										
Algae										
Diatoms										
Fern, moss, etc. spores										
Other (wood, trichomes, etc.)					2	27			5	67
OTHER PARTICLES:										
ANIMAL										
Epithelial (skin) cells	71	950	129	1,700	50	2,700	105	1,400	24	320
Hair										
Insect parts										
Mites										
FUNGI										
Hyphal fragments	1	13							3	40
NON-BIOLOGICAL										
Cellulose fibers	6	80	17	230	27	360	31	410	2	27
Glass fiber	1	13	2	27			1	13		
Starch particles					1	13				
Synthetic fibers							1	13		
Background debris (1-4+)†	1+		1+		2+		4+		2+	
Sample volume (liters)	75		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.

‡ 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".