

The following samples were collected from the JFK Library, rooms/areas:

- L23
- M02
- M04
- U02



Report for:

Donald C. Johnson
Eastern Washington University
EH&S, 002 Martin Hall
Cheney, WA 99004

Regarding: Project: JFK
EML ID: 1872050

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis: 02-06-2018

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

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

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EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Eastern Washington University
 C/O: Donald C. Johnson
 Re: JFK

Date of Sampling: 01-31-2018
 Date of Receipt: 02-02-2018
 Date of Report: 02-06-2018

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	1: 2567 3043 M04		2: 2567 3038 L23		3: 2567 3016 M02		4: 2567 3028 U02	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	8779677-1		8779678-1		8779679-1		8779680-1	
Analysis Date:	02/06/2018		02/06/2018		02/06/2018		02/06/2018	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores								
Basidiospores	1	53	2	110	2	110	1	53
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium	2	110			1	53	1	53
Curvularia								
Epicoccum								
Fusarium								
Myrothecium								
Nigrospora								
Other colorless								
Penicillium/Aspergillus types†	1	53			1	53		
Pithomyces								
Rusts								
Smuts, Periconia, Myxomycetes	1	13	1	13				
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	2+		2+		2+		2+	
Hyphal fragments/m3	< 13		< 13		27		< 13	
Pollen/m3	13		< 13		< 13		< 13	
Skin cells (1-4+)	1+		< 1+		1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORES/m3		230		120		210		110

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.



Report for:

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Regarding: Project: JFK
EML ID: 1872050

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Spore trap analysis: 02-06-2018

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: Donald C. Johnson
Re: JFK

Date of Sampling: 01-31-2018
Date of Receipt: 02-02-2018
Date of Report: 02-06-2018

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	1: 2567 3043 M04				2: 2567 3038 L23				3: 2567 3016 M02				4: 2567 3028 U02			
Comments (see below)	None				None				None				None			
Lab ID-Version‡:	8779677-1				8779678-1				8779679-1				8779680-1			
Analysis Date:	02/06/2018				02/06/2018				02/06/2018				02/06/2018			
Sample volume (liters)	75				75				75				75			
Background debris (1-4+)††	2+				2+				2+				2+			
	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									2	27	13	n/a				
Pollen	1	13	13	n/a												
§ TOTAL FUNGAL SPORES	5	230	n/a	100	3	120	n/a	100	4	210	n/a	100	2	110	n/a	100
Ascospores																
Basidiospores	1	53	53	24	2	110	53	89	2	110	53	50	1	53	53	50
Chaetomium																
Cladosporium	2	110	53	47					1	53	53	25	1	53	53	50
Other colorless																
Penicillium/Aspergillus types	1	53	53	24					1	53	53	25				
Pithomyces																
Rusts																
Smuts, Periconia, Myxomycetes	1	13	13	6	1	13	13	11								
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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Cheney, WA 99004

Regarding: Project: JFK
EML ID: 1872050

Approved by:

Operations Manager
Joshua Cox

Dates of Analysis:
Culturable air fungi (Incl. Asp spp.): 02-07-2018

Service SOPs: Culturable air fungi (Incl. Asp spp.) (EM-MY-S-1043)
AIHA-LAP, LLC accredited service, Lab ID #102297

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Client: Eastern Washington University
 C/O: Donald C. Johnson
 Re: JFK

Date of Sampling: 01-31-2018
 Date of Receipt: 02-02-2018
 Date of Report: 02-07-2018

CULTURABLE AIR FUNGI REPORT

Location:	U02		M02		L23		M04	
Comments (see below)	A		B		A		A	
Lab ID-Version‡:	8779669-1		8779671-1		8779673-1		8779675-1	
Analysis Date:	02/07/2018		02/07/2018		02/07/2018		02/07/2018	
Medium:	MEA		MEA		MEA		MEA	
	raw ct.	cfu*/m3	raw ct.	cfu*/m3	raw ct.	cfu*/m3	raw ct.	cfu*/m3
Aspergillus nidulans								
Aspergillus niger								
Aspergillus ochraceus								
Aspergillus versicolor								
Aureobasidium								
Basidiomycetes								
Bipolaris/Drechslera group								
Botrytis								
Chaetomium								
Cladosporium								
Curvularia								
Epicoccum								
Fusarium								
Non-sporulating fungi								
Paecilomyces								
Penicillium								
Phoma								
Rhizopus								
Stachybotrys chartarum								
Ulocladium								
Yeasts								
Positive Hole	400		400		400		400	
Sample volume (liters)	141.5		141.5		141.5		141.5	
§ TOTAL CFU*/M3		<7		<7		<7		<7

* cfu = colony forming units Positive hole correction chart used for all calculations

Comments: A) No fungal colonies detected. B) No impaction marks detected.

Note: Interpretation is left to the company and/or persons who conducted the field work. Variation is an inherent part of biological sampling.

The presence or absence of a few genera in small numbers should not be considered abnormal.

NORMAL SPORE LEVELS: Indoor spore levels usually average 30 to 80% of the outdoor spore level at the time of sampling, with the same general distribution of spore types. Filtered air, air-conditioned air, or air remote from outside sources may average 5 to 15% of the outside air at the time of sampling. (These percentages are guidelines, only. A major factor is the accessibility of outdoor air. A residence with open doors and windows and heavy foot traffic may average 95% of the outdoor level while high rise office buildings with little air exchange may average 2%. Dusty interiors may exceed 100% of the outdoors to some degree, but will still mirror the outdoor distribution of spore types.)

PROBLEM INTERIORS: A substantial increase of one or two spore types which are inconsistent with and non-reflective of the outside distribution of spore types is usually indicative of an indoor reservoir of mold growth.

The limit of detection is 1 raw count per volume of air sampled. The analytical sensitivity is 1 raw count/volume x the positive hole correction factor.

‡ 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 CFU/m3 has been rounded to two significant figures to reflect analytical precision.

Fungal culture types listed without a count or data entry were not detected during the course of the analysis for the respective sample.