U.S. Micro-Solutions, Inc. * 302 Unity Plaza * Latrobe, PA 15650
Phone: (724) 853-4047 Fax: (724) 853-4049 AIHA-LAP, LLC EMLAP # 103009
www.usmslab.com

Customer Name:	**Ohio Technical Services, Inc.**	**Sample Date:**	**July 13, 2022**
Customer Address:	**1949 Camaro Avenue**	**Date Received:**	**July 14, 2022**
	Columbus, OH 43207	**Date of Report:**	**July 19, 2022**
Customer Phone:	**(614) 372-0829**	**Fax:**	**(614) 372-0933**
PO Number:		**Attention:**	**Shawna Stinnett**
Project Name/Number:	**23-4004**		

Customer sample numbers below are uniquely identified by prefixing Laboratory # 77018-22

Airborne Spore Trap Analysis - Air-O-Cell
Analytical Method: MIC 01

Total Volume (L)		**75**				**75**				**75**			
Sample Number		**1**				**2**				**3**			
Location:		**Kitchen**				**Master**				**Bedroom 1**			
Particle ID		**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**
Alternaria-like										1	13	**13**	0%
Ascospores						1	13	**13**	8%	4	13	**52**	1%
Aspergillus/Penicillium-like						5	13	**65**	42%	340	13	**4,420**	96%
Basidiospores		4	13	**52**	100%	5	13	**65**	42%	5	13	**65**	1%
Bipolaris/Drechslera													
Cercospora													
Chaetomium-like													
Cladosporium						1	13	**13**	8%	2	13	**26**	1%
Curvularia													
Epicoccum										1	13	**13**	0%
Helicomyces													
Nigrospora													
Oidium													
Pithomyces													
Polythrincium										1	13	**13**	0%
Rusts													
Smuts/ Myxomycetes										1	13	**13**	0%
Stachybotrys													
Torula													
Trichoderma-like													
Unidentified dematiaceous conidia													
Unidentified hyaline conidia													
Total Mold (Spores/m³ of air)		4		**52**		12		**156**		355		**4,615**	
Pollen		0	13	< **13**		0	13	< **13**		0	13	< **13**	
Hyphal Fragments													
Insect Fragments													
Plant Fragments													
Skin Cell Fragments		1				1				1			
Debris		1				2				2			
Analyst Initials		LS				LS				LS			
Date Analyzed		07/15/22				07/15/22				07/15/22			
Exp Date of Cassette:		10/2022				10/2022				10/2022			

Entire trace analyzed. Samples are in good condition unless otherwise noted. Results relate only to the samples tested as received. Results are reported as calculated. For biological data, the first and/or second digit should be considered significant. Total percentage may not equal 100% due to rounding. Percentages reported as 0% are greater than 0 and less than 0.5%. The *Aspergillus/Penicllium* -like category cannot be differentiated by non-viable sampling methods. Results are not blank corrected.
Blank Lines = None Detected

Technical Manager: Deanna L Kiska

Deanna L. Kiska, Ph.D.

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Customer Phone:	**(614) 372-0829**	**Fax:**	**(614) 372-0933**
PO Number:		**Attention:**	**Shawna Stinnett**
Project Name/Number:	**23-4004**		

Customer sample numbers below are uniquely identified by prefixing Laboratory # 77018-22

Airborne Spore Trap Analysis - Air-O-Cell
Analytical Method: MIC 01

Total Volume (L)		**75**											
Sample Number		**4**											
Location:		**Outside Base**											
Particle ID		**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**
Alternaria-like													
Ascospores		4	13	**52**	5%								
Aspergillus/Penicillium-like													
Basidiospores		36	13	**468**	49%								
Bipolaris/Drechslera													
Cercospora													
Chaetomium-like													
Cladosporium		31	13	**403**	42%								
Curvularia													
Epicoccum		1	13	**13**	1%								
Helicomyces													
Nigrospora													
Oidium													
Pithomyces													
Polythrincium													
Rusts													
Smuts/ Myxomycetes													
Stachybotrys													
Torula		1	13	**13**	1%								
Trichoderma-like													
Unidentified dematiaceous conidia													
Unidentified hyaline conidia													
Total Mold (Spores/m³ of air)		73		**949**									
Pollen		0	13	< **13**									
Hyphal Fragments													
Insect Fragments													
Plant Fragments													
Skin Cell Fragments		1											
Debris		1											
Analyst Initials		LS											
Date Analyzed		07/15/22											
Exp Date of Cassette:		10/2022											

Entire trace analyzed. Samples are in good condition unless otherwise noted. Results relate only to the samples tested as received. Results are reported as calculated. For biological data, the first and/or second digit should be considered significant. Total percentage may not equal 100% due to rounding. Percentages reported as 0% are greater than 0 and less than 0.5%. The *Aspergillus/Penicllium* -like category cannot be differentiated by non-viable sampling methods. Results are not blank corrected.
Blank Lines = None Detected

Technical Manager: Deanna L Kiska

Deanna L. Kiska, Ph.D.

SPORE TRAP INTERPRETATION TIPS

Contains opinions and interpretations

Currently there are no numeric standards for indoor airborne or surface microbial contamination. Suggested guidelines are constantly being reviewed and updated as more information is collected.

Some common denominators should be considered when interpreting results:

1. Comparison of indoor/outdoor concentration ratios.

2. Complaint vs. non-complaint areas or affected vs. non-affected areas.

3. Consider air exchange rates and activity levels in a building structure, weather, and season of the year.

4. Rank order assessment and concentration (e.g., spores/m^3 of air) of the fungi.

5. Predominant fungal genera: Are there water indicator microorganisms present, such as but not limited to: *Chaetomium, Stachybotrys, Trichoderma,* and *Scopulariopsis.*

6. Generally fungal counts indoors should be lower than outdoor counts and the types of fungi found indoors should be similar to outdoors.

7. There is always a potential bias from infiltration of outdoor air, poor housekeeping, excessive indoor relative humidity, or potential contamination sources (e.g. water intrusion through a basement wall) that may negatively influence post remedial verification (PRV) or clearance levels.

8. The investigator should look for various patterns among the indoor types of molds detected:

   a. Increased levels of primary (1st) colonizers in damp or moisture intrusion areas of homes or commercial buildings: ***Aspergillus/Penicillium*** or ***Cladosporium*** are usually noted.

   b. ***Chaetomium*** or ***Stachybotrys*** are tertiary (3rd) colonizers of indoor materials and are usually associated with chronic long-standing water/moisture issues in a building.

   c. The presence of **hyphal fragments** or **fruiting structures** noted on spore trap samples usually indicates amplification (growth) of fungi on building substrates.

   d. **Ascospores** and **basidiospores** noted on indoor spore trap samples most often represent the entrance of inadequately filtered outdoor air. During inclement weather, remember to note time, temperature, and season. Most indoor materials will not support the growth of these fungi.

9. When unidentified **hyaline** (clear) or **dematiaceous** (dark-pigmented) conidia are noted on a spore trap sample, it indicates that no particular fungus can be identified. These fungal conidia may represent such yeast-like fungi as *Aureobasidium, Sporidiobolus,* unidentifiable *Acremonium* species, Basidiomycetes (basidiospores), and Ascomycetes (ascospores).

10. Keep in mind when interpreting spore trap sample reports, that indoor levels may be higher than corresponding outdoor levels (winter time in the northern U.S.) with a predominance of *Aspergillus/Penicillium* or *Cladosporium* conidia with no significant amplification of any molds.

SPORE TRAP GUIDELINES

DEBRIS RATING		
DEBRIS RATING	**Debris Load** per high power field (600 X)	**SIGNIFICANCE**
0	A visible trace, including particulates and debris, is not observed.	Indicates the sample is a blank, the area is exceptionally clean, or improper sampling occurred.
1	<5%	Minimal amount of debris is observed.
2	5-25%	Low amount of debris is observed.
3	25-75%	Moderate amount of debris is observed, the accuracy of the analysis is likely affected.
4	75-90%	High amount of debris is observed, the accuracy of the analysis is likely affected.
5 See Relative Abundance chart below	>90%	Periphery of trace analyzed. Relative amounts of conidia/hyphal fragments noted.

RELATIVE ABUNDANCE of FUNGAL PARTICLES (hyphal fragments, spores)	
RATING	**Fungal Particle Load** per high power field (600 X)
Rare	<5%
Few	5-25%
Moderate	25-75%
Many	75-90%
Numerous	>90%

SKIN CELL RATING	
SKIN CELL RATING	**Skin Cell Load** per high power field (600 X)
0	No skin cells present
1	<5%
2	5-25%
3	25-75%
4	75-90%
5	>90%

End of Report

U.S. Micro-Solutions, Inc.

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Latrobe, PA 15650
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NY ELAP #12055 The New York Environmental Laboratory Approval Program

LABORATORY TEST REQUEST – CHAIN OF CUSTODY

Customer Name: Ohio Technical Services, Inc.	Phone #: (614) 372-0829	FAX #: (614) 372-0933	
Address: 1949 Camaro Avenue	City: Columbus	State: OH	Zip: 43207
Attention To: Shawna Stinnett	E-Mail: sstinnett@ohiotechserv.com		
Sample Obtained By: Justin Jones	Results: ☐ FAX ■ E-Mail	PO#	Proposal #
Project Name/Number: 23-4004			

Turn-Around-Time: (Spore Trap & DME Only)*	Standard (48-72 hr)	Next Day (24 hr, M-F)	Same Day (6 hr, M-F)	3-Hour (M-F)	Saturday
	✔	☐	☐	☐	☐

Comments:

Sample #	Sample Date / Time		Sample Code	Analysis Code	Sample Location & Description	Sample Volume/Area
1	7/13		ST	SPT	Kitchen	75
2	7/13		ST	SPT	Master	75
3	7/13		ST	SPT	Bedroom 1	75
4	7/13		ST	SPT	Outside Base	75

Relinquished By (Customer MUST sign): Justin Jones — Date & Time: 7-13-22

Received By – Lab Use Only: [signature] — Date & Time: 07/14/22 0950 — Lab #: 77018-22

Rev. 11-27-18

Sample Code	
A	Air Plate
B	Bulk
ST	Spore Trap
S	Swab
W	Water
T	Tape
O	Other

10/2022

Analysis Code

DME	Direct Microscopic Exam	COL	Colilert – Presence/absence of *E. coli*, coliforms
SPT	Spore Trap ☐ Allergenco-D ■ AirOCell ☐ M5	HPC	Heterotrophic Plate Count
FUNG	Fungal Culture – Counts w/ Identification	MYC	Mycobacteria Culture
BACT	Bacterial Culture – Counts w/ Identification	STA	*Staphylococcus* / MRSA Culture
BACT24	Bacterial Culture (24 hr) - Counts w/ presence/absence of gram-negatives	DUO	Duodenoscope Culture
SSQT	Sewage Screen (quant) – Counts w/ Identification *E. coli, coliforms, enterococci (fecal streptococci)*	HCU	Heater/Cooler Water Culture *includes mycobacteria, HPC, coliforms, & P. aeruginosa*
SSQL	Sewage Screen (qualitative) – Presence/absence *E. coli, coliforms, enterococci (fecal streptococci)*	PSA	*Pseudomonas aeruginosa* Culture
SS24	Sewage Screen (24 hr) - Presence/absence *E. coli, coliforms, enterococci (fecal streptococci)*	IDS	Species Identification by MALDI-TOF

*All samples received after 1:00 p.m. Monday-Friday will be considered received the NEXT business day.
Same Day and Next Day samples received on Saturday will be reported on Monday and Tuesday, respectively.