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

LAB0158

Customer Name:	**AGX, Inc.**	**Sample Date:**	**August 19, 2019**
Customer Address:	**207 Pine Creek Road**	**Date Received:**	**August 20, 2019**
	Wexford, PA 15090	**Date of Report:**	**August 21, 2019**
Customer Phone:	**(724) 934-4249**	**Fax:**	**(724) 934-5677**
PO Number:		**Attention:**	**Amber Brancolini**
Project Name/Number:	**Summit Township Elementary**		

Customer sample numbers below are uniquely identified by prefixing Laboratory # 88218-19

Airborne Spore Trap Analysis - AllergencoD
Analytical Method: USMS-M008

Total Volume (L)		**75**				**75**				**75**			
Sample Number		**STE-10-01**				**STE-2-02**				**STE-4-03**			
Location:		**Room 10**				**Room 2**				**Room 4**			
Particle ID		**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**
Alternaria													
Ascospores		17	13	**221**	1%	14	13	**182**	11%	14	13	**182**	0%
Aspergillus/Penicillium-like		112	178	**19,936**	95%	31	13	**403**	25%	139	267	**37,113**	94%
Basidiospores		5	13	**65**	0%	22	13	**286**	18%	9	13	**117**	0%
Bipolaris/Drechslera													
Cercospora													
Chaetomium													
Cladosporium		64	13	**832**	4%	55	13	**715**	45%	170	13	**2,210**	6%
Curvularia													
Epicoccum													
Helicomyces													
Nigrospora													
Oidium													
Pithomyces/Ulocladium		2	13	**26**	0%					1	13	**13**	0%
Polythrincium													
Rusts													
Smuts/ Myxomycetes													
Stachybotrys													
Torula													
Trichoderma													
Unidentified dematiaceous conidia													
Unidentified hyaline conidia													
Total Mold (Spores/m³ of air)		200		**21,080**		122		**1,586**		333		**39,635**	
Pollen		0	13	< **13**		0	13	< **13**		0	13	< **13**	
Hyphal Fragments		4	13	**52**		2	13	**26**		2	13	**26**	
Insect Fragments													
Plant Fragments													
Skin Cell Fragments		1				1				1			
Debris		2				1				1			
Analyst Initials		HC				HC				HC			
Date Analyzed		08/20/19				08/20/19				08/20/19			
Cassette Serial # / Exp Date:		2796548 09/2019				2796542 09/2019				2796562 09/2019			

Entire trace analyzed. Results relate only to the samples tested. 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.

AS=Analytical Sensitivity (spore/m^3); Blank Lines = None Detected

Technical Manager: Sharon Fanchalsky

Sharon Fanchalsky, AS, MLT (ASCP)

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Airborne Spore Trap Analysis - AllergencoD
Analytical Method: USMS-M008

Total Volume (L)		**75**				**75**				**75**			
Sample Number		**STE-1-04**				**STE-5-05**				**STE-6-06**			
Location:		**Room 1**				**Room 5**				**Room 6**			
Particle ID		**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**
Alternaria													
Ascospores		3	13	**39**	4%	4	13	**52**	1%	7	13	**91**	6%
Aspergillus/Penicillium-like		38	13	**494**	55%	367	13	**4,771**	94%	75	13	**975**	62%
Basidiospores		14	13	**182**	20%	2	13	**26**	1%	2	13	**26**	2%
Bipolaris/Drechslera													
Cercospora													
Chaetomium													
Cladosporium		14	13	**182**	20%	19	13	**247**	5%	37	13	**481**	31%
Curvularia													
Epicoccum													
Helicomyces													
Nigrospora													
Oidium													
Pithomyces/Ulocladium													
Polythrincium													
Rusts													
Smuts/ Myxomycetes													
Stachybotrys													
Torula													
Trichoderma													
Unidentified dematiaceous conidia													
Unidentified hyaline conidia													
Total Mold (Spores/m³ of air)		69		**897**		392		**5,096**		121		**1,573**	
Pollen		0	13	< **13**		0	13	< **13**		0	13	< **13**	
Hyphal Fragments													
Insect Fragments													
Plant Fragments													
Skin Cell Fragments		1				1				1			
Debris		2				2				2			
Analyst Initials		LS				LS				LS			
Date Analyzed		08/20/19				08/20/19				08/20/19			
Cassette Serial # / Exp Date:		2796547 09/2019				2796552 09/2019				2796553 09/2019			

Entire trace analyzed. Results relate only to the samples tested. 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.

AS=Analytical Sensitivity (spore/m^3); Blank Lines = None Detected

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Customer Address:	**207 Pine Creek Road**	**Date Received:**	**August 20, 2019**
	Wexford, PA 15090	**Date of Report:**	**August 21, 2019**
Customer Phone:	**(724) 934-4249**	**Fax:**	**(724) 934-5677**
PO Number:		**Attention:**	**Amber Brancolini**
Project Name/Number:	**Summit Township Elementary**		

Customer sample numbers below are uniquely identified by prefixing Laboratory # 88218-19

Airborne Spore Trap Analysis - AllergencoD
Analytical Method: USMS-M008

Total Volume (L)		**75**				**75**				**75**			
Sample Number		**STE-7-07**				**STE-13-08**				**STE-16-09**			
Location:		**Room 7**				**Room 13**				**Room 16**			
Particle ID		**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**
Alternaria													
Ascospores		26	13	**338**	4%	18	13	**234**	6%	26	13	**338**	12%
Aspergillus/Penicillium-like		480	13	**6,240**	83%	165	13	**2,145**	58%	111	13	**1,443**	50%
Basidiospores		29	13	**377**	5%	28	13	**364**	10%	36	13	**468**	16%
Bipolaris/Drechslera													
Cercospora													
Chaetomium													
Cladosporium		46	13	**598**	8%	71	13	**923**	25%	51	13	**663**	23%
Curvularia													
Epicoccum						1	13	**13**	0%				
Helicomyces						1	13	**13**	0%				
Nigrospora													
Oidium													
Pithomyces/Ulocladium													
Polythrincium													
Rusts													
Smuts/ Myxomycetes						2	13	**26**	1%				
Stachybotrys													
Torula													
Trichoderma													
Unidentified dematiaceous conidia													
Unidentified hyaline conidia													
Total Mold (Spores/m³ of air)		581		**7,553**		286		**3,718**		224		**2,912**	
Pollen		1	13	**13**		0	13	< **13**		0	13	< **13**	
Hyphal Fragments													
Insect Fragments		1	13	**13**		6	13	**78**		1	13	**13**	
Plant Fragments													
Skin Cell Fragments		1				1				1			
Debris		1				1				1			
Analyst Initials		BM				BM				BM			
Date Analyzed		08/20/19				08/20/19				08/20/19			
Cassette Serial # / Exp Date:		2796558 09/2019				2796567 09/2019				2796569 09/2019			

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AS=Analytical Sensitivity (spore/m^3); Blank Lines = None Detected

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	Wexford, PA 15090	**Date of Report:**	**August 21, 2019**
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Project Name/Number:	**Summit Township Elementary**		

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Airborne Spore Trap Analysis - AllergencoD
Analytical Method: USMS-M008

Total Volume (L)		**75**				**75**				**75**			
Sample Number		**STE-17-10**				**STE-Gd-11**				**STE-Prm-12**			
Location:		**Room 17**				**Guidance**				**Principals Office**			
Particle ID		**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**
Alternaria													
Ascospores		13	13	**169**	13%	2	13	**26**	0%				
Aspergillus/Penicillium-like		46	13	**598**	44%	145	178	**25,810**	99%	40	13	**520**	91%
Basidiospores		39	13	**507**	38%					3	13	**39**	7%
Bipolaris/Drechslera													
Cercospora													
Chaetomium													
Cladosporium		6	13	**78**	6%	14	13	**182**	1%	1	13	**13**	2%
Curvularia													
Epicoccum													
Helicomyces													
Nigrospora													
Oidium													
Pithomyces/Ulocladium													
Polythrincium													
Rusts													
Smuts/ Myxomycetes													
Stachybotrys													
Torula													
Trichoderma													
Unidentified dematiaceous conidia													
Unidentified hyaline conidia													
Total Mold (Spores/m³ of air)		104		**1,352**		161		**26,018**		44		**572**	
Pollen		0	13	< **13**		0	13	< **13**		0	13	< **13**	
Hyphal Fragments													
Insect Fragments													
Plant Fragments													
Skin Cell Fragments		1				1				1			
Debris		2				2				2			
Analyst Initials		LS				LS				LS			
Date Analyzed		08/20/19				08/20/19				08/20/19			
Cassette Serial # / Exp Date:		2796581 09/2019				2796574 09/2019				2796576 09/2019			

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AS=Analytical Sensitivity (spore/m^3); Blank Lines = None Detected

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	Wexford, PA 15090	**Date of Report:**	**August 21, 2019**
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Project Name/Number:	**Summit Township Elementary**		

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Airborne Spore Trap Analysis - AllergencoD
Analytical Method: USMS-M008

Total Volume (L)		**75**											
Sample Number		**STE-Out-13**											
Location:		**Outside**											
Particle ID		**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**	**Raw ct.**	**AS**	**Spores/m³**	**%**
Alternaria		1	13	**13**	0%								
Ascospores		128	13	**1,664**	26%								
Aspergillus/Penicillium-like		24	13	**312**	5%								
Basidiospores		172	13	**2,236**	36%								
Bipolaris/Drechslera													
Cercospora													
Chaetomium													
Cladosporium		145	13	**1,885**	30%								
Curvularia													
Epicoccum		1	13	**13**	0%								
Helicomyces		2	13	**26**	0%								
Nigrospora													
Oidium													
Pithomyces/Ulocladium		3	13	**39**	1%								
Polythrincium													
Rusts		2	13	**26**	0%								
Smuts/ Myxomycetes		6	13	**78**	1%								
Stachybotrys													
Torula													
Trichoderma													
Unidentified dematiaceous conidia													
Unidentified hyaline conidia													
Total Mold (Spores/m³ of air)		484		**6,292**									
Pollen		1	13	**13**									
Hyphal Fragments		1	13	**13**									
Insect Fragments													
Plant Fragments													
Skin Cell Fragments		1											
Debris		1											
Analyst Initials		HC											
Date Analyzed		08/20/19											
Cassette Serial # / Exp Date:		2931337 03/2020											

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AS=Analytical Sensitivity (spore/m^3); Blank Lines = None Detected

Technical Manager: Sharon Fanchalsky

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SPORE TRAP INTERPRETATION TIPS

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* , *Rhodotorula* , *Trichoderma* , and *Scopulariopsis* .

6. Generally the 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 indoors 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 FOR INDOOR MICROBIAL CONTAMINATION

DEBRIS RATING for SPORE TRAP ANALYSIS (using 600X magnification) (Air-O-Cell, Micro 5, Allergenco D, Cyclex d, VersaTrap, etc.)		
DEBRIS RATING	**CONDITIONS FOR REPORTING DEBRIS RATING**	**SIGNIFICANCE**
0	A visible trace, including particulates and debris, is not observed.	Indicates the sample was a blank, the area is exceptionally clean, or improper sampling occurred.
1	Debris is present and <10% of the average viewing field is obscured.	Minimal amount of debris is observed.
2	Debris is present and 10% to <40% of the average viewing field is obscured.	Low amount of debris is observed, counts may be affected.
3*	Debris is present and 40% to 75% of the average viewing field is obscured.	Moderate amount of debris is observed, counts of conidia/hyphal fragments may be underestimated.
4*	Debris is present and >75% of the average viewing field is obscured.	High amount of debris is observed, counts are estimated.
5* See Relative Abundance chart below	Excessive debris is present	Periphery of trace analyzed. Relative amounts of conidia/hyphal fragments noted. Suggest recollection.
6	Slide completely obscured by excessive debris.	Unable to analyze. Recollect sample.

* A rating of 3 or greater indicates that the accuracy of the analysis is likely affected.

RELATIVE ABUNDANCE of OBSERVED CONIDIA & HYPHAL FRAGMENTS	
RATING	**Relative Amounts of Observed Fungal Structures per high power field (600X)**
Rare	0-1
Few	2 to 5
Moderate	6 to 10
Many	11 to 100
Numerous	>100

SKIN CELL ANALYSIS	
SKIN CELL RATING	**Relative Amounts of Observed Skin Cells per high power field (600X)**
0	No skin cells present
1	0-1
2	2 to 5
3	6 to 10
4	11 to 15
5	≥16

End of Report