



<b>Customer Name:</b>	<b>AGX, Inc.</b>	<b>Sample Date:</b>	<b>August 30, 2019</b>
<b>Customer Address:</b>	<b>207 Pine Creek Road Wexford, PA 15090</b>	<b>Date Received:</b>	<b>August 30, 2019</b>
		<b>Date of Report:</b>	<b>August 30, 2019</b>
<b>Customer Phone:</b>	<b>(724) 934-4249</b>	<b>Fax:</b>	<b>(724) 934-5677</b>
<b>PO Number:</b>		<b>Attention:</b>	<b>Amber Brancolini</b>
<b>Project Name/Number:</b>	<b>Summit Elementary School</b>		

**Customer sample numbers below are uniquely identified by prefixing Laboratory # 88605-19**

Airborne Spore Trap Analysis - AllergencoD												
Analytical Method: USMS-M008												
Total Volume (L)	75				75				75			
Sample Number	STE-2-37				STE-3-38				STE-4-39			
Location:	Room 2				Room 3				Room 4			
Particle ID	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%
Alternaria												
Ascospores	2	13	26	3%	2	13	26	1%	3	13	39	1%
Aspergillus/Penicillium-like	20	13	260	26%	170	13	2,210	78%	130	13	1,690	53%
Basidiospores	37	13	481	49%	21	13	273	10%	72	13	936	29%
Bipolaris/Drechslera												
Cercospora												
Chaetomium												
Cladosporium	17	13	221	22%	16	13	208	7%	39	13	507	16%
Curvularia												
Epicoccum									1	13	13	0%
Helicomyces												
Nigrospora												
Oidium												
Pithomyces/Ulocladium					1	13	13	0%	1	13	13	0%
Polythrincium												
Rusts					2	13	26	1%				
Smuts/ Myxomycetes					6	13	78	3%				
Stachybotrys												
Torula												
Trichoderma												
Unidentified dematiaceous conidia					1	13	13	0%				
Unidentified hyaline conidia												
<b>Total Mold (Spores/m<sup>3</sup> of air)</b>	<b>76</b>		<b>988</b>		<b>219</b>		<b>2,847</b>		<b>246</b>		<b>3,198</b>	
<b>Pollen</b>	<b>0</b>	<b>13</b>	<b>&lt; 13</b>		<b>0</b>	<b>13</b>	<b>&lt; 13</b>		<b>0</b>	<b>13</b>	<b>&lt; 13</b>	
<b>Hyphal Fragments</b>	<b>1</b>	<b>13</b>	<b>13</b>		<b>5</b>	<b>13</b>	<b>65</b>		<b>1</b>	<b>13</b>	<b>13</b>	
<b>Insect Fragments</b>												
<b>Plant Fragments</b>												
<b>Skin Cell Fragments</b>			<b>1</b>				<b>1</b>				<b>1</b>	
<b>Debris</b>			<b>2</b>				<b>2</b>				<b>2</b>	
<b>Analyst Initials</b>			<b>HC</b>				<b>HC</b>				<b>HC</b>	
<b>Date Analyzed</b>			<b>08/30/19</b>				<b>08/30/19</b>				<b>08/30/19</b>	
<b>Cassette Serial # / Exp Date:</b>			<b>2937580 03/2020</b>				<b>2937560 03/2020</b>				<b>2937582 03/2020</b>	

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/Penicillium*-like category cannot be differentiated by non-viable sampling methods.  
 AS=Analytical Sensitivity (spore/m<sup>3</sup>); Blank Lines = None Detected

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Technical Manager: *Sharon Fanchalsky*  
 Sharon Fanchalsky, AS, MLT (ASCP)



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<b>PO Number:</b>		<b>Attention:</b>	<b>Amber Brancolini</b>
<b>Project Name/Number:</b>	<b>Summit Elementary School</b>		

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Airborne Spore Trap Analysis - AllergencoD													
Analytical Method: USMS-M008													
Total Volume (L)	75								75				
Sample Number	STE-8-40				STE-Con-41				STE-GO-42				
Location:	Room 8				Conference Room				Guidance Office				
Particle ID	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%	
Alternaria													
Ascospores					2	13	26	1%					
Aspergillus/Penicillium-like	1	13	13	25%	224	13	2,912	97%	84	13	1,092	72%	
Basidiospores	3	13	39	75%	3	13	39	1%	6	13	78	5%	
Bipolaris/Drechslera													
Cercospora													
Chaetomium													
Cladosporium					3	13	39	1%	26	13	338	22%	
Curvularia													
Epicoccum													
Helicomyces													
Nigrospora													
Oidium													
Pithomyces/Ulocladium									1	13	13	1%	
Polythrincium													
Rusts													
Smuts/ Myxomycetes													
Stachybotrys													
Torula													
Trichoderma													
Unidentified dematiaceous conidia													
Unidentified hyaline conidia													
<b>Total Mold (Spores/m<sup>3</sup> of air)</b>	<b>4</b>		<b>52</b>		<b>232</b>		<b>3,016</b>		<b>117</b>		<b>1,521</b>		
<b>Pollen</b>	<b>0</b>	<b>13</b>	<b>&lt; 13</b>		<b>0</b>	<b>13</b>	<b>&lt; 13</b>		<b>0</b>	<b>13</b>	<b>&lt; 13</b>		
<b>Hyphal Fragments</b>					<b>1</b>	<b>13</b>	<b>13</b>						
<b>Insect Fragments</b>													
<b>Plant Fragments</b>													
<b>Penicillium fruiting structures</b>					<b>1</b>	<b>13</b>	<b>13</b>						
<b>Skin Cell Fragments</b>			<b>1</b>				<b>1</b>				<b>1</b>		
<b>Debris</b>			<b>2</b>				<b>2</b>				<b>2</b>		
<b>Analyst Initials</b>			<b>LS</b>				<b>LS</b>				<b>LS</b>		
<b>Date Analyzed</b>			<b>08/30/19</b>				<b>08/30/19</b>				<b>08/30/19</b>		
<b>Cassette Serial # / Exp Date:</b>			<b>2796561 09/2019</b>				<b>2937583 03/2020</b>				<b>2937572 03/2020</b>		

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/Penicillium*-like category cannot be differentiated by non-viable sampling methods.  
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**PO Number:** **Attention:** Amber Brancolini  
**Project Name/Number:** Summit Elementary School

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

Total Volume (L)	75				75				75			
	STE-15-43				STE-10-44				STE-17-45			
Sample Number	Room 15				Room 10				Room 17			
Location:	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%
Alternaria									1	13	13	0%
Ascospores	1	13	13	2%					1	13	13	0%
Aspergillus/Penicillium-like	15	13	195	25%	100	133	13,300	96%	146	13	1,898	52%
Basidiospores	27	13	351	45%	14	13	182	1%	44	13	572	16%
Bipolaris/Drechslera												
Cercospora												
Chaetomium												
Cladosporium	15	13	195	25%	27	13	351	3%	84	13	1,092	30%
Curvularia					1	13	13	0%				
Epicoccum									2	13	26	1%
Helicomyces												
Nigrospora	1	13	13	2%								
Oidium												
Pithomyces/Ulocladium	1	13	13	2%	2	13	26	0%	2	13	26	1%
Polythrincium												
Rusts												
Smuts/ Myxomycetes									3	13	39	1%
Stachybotrys												
Torula												
Trichoderma												
Unidentified dematiaceous conidia												
Unidentified hyaline conidia												
Total Mold (Spores/m <sup>3</sup> of air)	60		780		144		13,872		283		3,679	
Pollen	0	13	< 13		0	13	< 13		0	13	< 13	
Hyphal Fragments					2	13	26		8	13	104	
Insect Fragments												
Plant Fragments												
Skin Cell Fragments			1				1				1	
Debris			1				2				2	
Analyst Initials			HC				HC				HC	
Date Analyzed			08/30/19				08/30/19				08/30/19	
Cassette Serial # / Exp Date:			2937565 03/2020				2937589 03/2020				2937575 03/2020	

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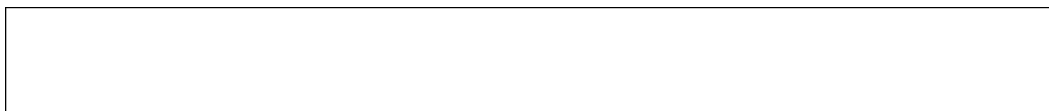
Customer sample numbers below are uniquely identified by prefixing Laboratory # 88605-19

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

Total Volume (L)		75											
Sample Number		STE-Out-46											
Location:		Outside											
Particle ID	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%	Raw ct.	AS	Spores/m <sup>3</sup>	%	
Alternaria	4	13	52	0%									
Ascospores	22	13	286	1%									
Aspergillus/Penicillium-like													
Basidiospores	115	178	20,470	91%									
Bipolaris/Drechslera	1	13	13	0%									
Cercospora	2	13	26	0%									
Chaetomium													
Cladosporium	100	13	1,300	6%									
Curvularia	4	13	52	0%									
Epicoccum													
Helicomyces													
Nigrospora													
Oidium													
Pithomyces/Ulocladium	4	13	52	0%									
Polythrincium													
Rusts	6	13	78	0%									
Smuts/ Myxomycetes	12	13	156	1%									
Stachybotrys													
Torula													
Trichoderma													
Unidentified dematiaceous conidia													
Unidentified hyaline conidia													
Total Mold (Spores/m <sup>3</sup> of air)	270		22,485										
Pollen	16	13	208										
Hyphal Fragments	2	13	26										
Insect Fragments	2	13	26										
Plant Fragments													
Skin Cell Fragments			1										
Debris			1										
Analyst Initials			LS										
Date Analyzed			08/30/19										
Cassette Serial # / Exp Date:			2937598 03/2020										

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/Penicillium*-like category cannot be differentiated by non-viable sampling methods.  
 AS=Analytical Sensitivity (spore/m<sup>3</sup>); Blank Lines = None Detected

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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<sup>3</sup> 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

<b>DEBRIS RATING for SPORE TRAP ANALYSIS (using 600X magnification)</b> (Air-O-Cell, Micro 5, Allergenco D, Cyclex d, VersaTrap, etc.)		
<b>DEBRIS RATING</b>	<b>CONDITIONS FOR REPORTING DEBRIS RATING</b>	<b>SIGNIFICANCE</b>
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.

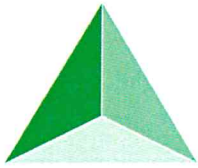
\* A rating of 3 or greater indicates that the accuracy of the analysis is likely affected.

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

<b>SKIN CELL ANALYSIS</b>	
<b>SKIN CELL RATING</b>	<b>Relative Amounts of Observed Skin Cells per high power field (600X)</b>
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\***





### U.S. Micro-Solutions, Inc.

302 Unity Plaza  
 Latrobe, PA 15650  
 P: 724-853-4047 F: 724-853-4049



#### LABORATORY TEST REQUEST – CHAIN OF CUSTODY Additional Samples

Customer Name: AGX Project Name/Number: Summit Elementary

Sample #	Sample Date / Time	Sample Code	Analysis Code	Sample Location & Description	Sample Volume/Area
<u>STE-OUT-46</u>	<u>8-30-19</u>	<u>ST</u>	<u>SPT</u>	<u>outside</u>	<u>75 L</u>

Received By: [Signature] Lab Use Only      Date & Time: 08/30/19 10:50      Lab #: 881205-17