

**SPORE SAMPLING REPORT  
FOR  
GLENWOOD MIDDLE SCHOOL  
2680 ROUTE 97  
GLENWOOD, MD 21738**

**PREPARED FOR:**

**HOWARD COUNTY PUBLIC SCHOOL SYSTEM  
10910 ROUTE 108  
ELLCOTT CITY, MD 21043**

**PREPARED BY:**



**ARIA ENVIRONMENTAL, INC.  
PO BOX 286  
WOODBINE, MD 21797**

**JUNE 28, 2016**

**150876**

**SPORE TRAP SAMPLING REPORT  
FOR GLENWOOD MIDDLE SCHOOL  
JUNE 8, 2016**

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**SPORE TRAP SAMPLING REPORT  
FOR GLENWOOD MIDDLE SCHOOL  
June 8, 2016**

**EXECUTIVE SUMMARY**

Aria Environmental, Inc. (AE) was contracted by Howard County Public School System to perform spore trap sampling at the Glenwood Middle School at the end of August 2015 due to air quality concerns expressed by staff and parents and to monitor the school after a heating, ventilation and air-conditioning (HVAC) system upgrade performed in summer, 2015. AE made measurements for temperature, humidity, carbon monoxide and carbon dioxide and collected microbial spore trap sampling for fungal spore identification and counting on June 8, 2016 as part of a series of spore sampling events that will occur regularly during the 2015 - 2016 school year. This report presents the results of air sampling made on June 8, 2016.

**Spore Trap Sampling Report  
For Glenwood Middle School  
June 8, 2016**

**I. BACKGROUND**

Representatives from Aria Environmental, Inc. (AE) visited Glenwood Middle School on June 8, 2016 to perform air monitoring in response to an ongoing indoor air quality complaint at the school. Measurements for temperature, humidity, carbon monoxide, carbon dioxide and particulate matter and microbial spore trap sampling were collected from classrooms 3, 4, 19, 20, 27, 28, 34, FACS Room 35 and Portable Classrooms 80 and 81. Outdoor air samples were also collected for comparison purposes in one courtyard and outside near portable classroom 81. This monitoring was performed in response to employee and parental complaints and as a follow up to HVAC improvements.

There was no visible evidence of mold growth nor observed odors consistent with mildew in the classrooms sampled. Weather on the day of monitoring was sunny and breezy.

**II. OBSERVATIONS AND MEASUREMENTS**

**A. Observations and Measurements on June 8, 2016**

Industry guidelines or standards for seasonal temperature and humidity ranges for thermal comfort are established by the American Society for Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) standard 55-2013. These ranges are presented in Table 1. The U.S. Environmental Protection Agency (EPA) recommends maintaining indoor relative humidity below 60% and ideally between 30 and 50%. The room air temperature measured between 3:20 PM and 4:22 PM ranged from 71.2 to 78.1° F with an average of 74.0° F. The indoor relative humidity ranged from 31.2 to 42.4 percent. The temperature and humidity measurements were acceptable compared to the comfort ranges. The comfort ranges are only set for the Summer and Winter seasons when temperatures are usually consistent. There are no Fall or Spring ranges because these seasons can include both heating and cooling modes of HVAC operation. The outside temperature at 4:36 PM was 68.6° F and the outdoor relative humidity was 34.0% outside near Portable Classroom 81, and the outside temperature at 4:38 PM was 70.4° F and the relative humidity was 34.6% in the outdoor courtyard. No windows or doors were observed to be open during the monitoring period. Results of temperature, relative humidity, carbon dioxide and carbon monoxide monitoring are presented in Table 2.

**Table 1- Acceptable Ranges of Temperature and  
Relative Humidity in Summer and Winter<sup>a</sup>**

<b>Relative Humidity</b>	<b>Winter Temperature</b>	<b>Summer Temperature</b>
30%	68.5°F – 76.0°F	74.0°F – 80.0°F
40%	68.5°F - 75.5°F	73.5°F – 79.5°F
50%	68.5°F - 74.5°F	73.0°F – 79.0°F
60%	68.0°F - 74.0°F	72.5°F – 78.0°F

<sup>a</sup>adapted from ASHRAE Standard 55-2013

Carbon dioxide and carbon monoxide measurements are used to assess ventilation system performance. The exhaled breath of building occupants is the main indoor source of carbon dioxide; therefore, the build-up of carbon dioxide indicates inadequate ventilation. Air monitoring was performed after school with the rooms unoccupied during sampling. Carbon dioxide concentrations ranged from 274 to 405 ppm indoors. The concentration of concern for carbon dioxide is set by ASHRAE standard 62.1–2013 as 700 ppm above outdoor air. On the day of monitoring, the outdoor air concentration of carbon dioxide ranged from 250 to 268 ppm.

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Carbon dioxide concentrations were within the comfort parameters established by ASHRAE in all areas monitored.

Carbon monoxide is mainly attributed to incomplete combustion. Concentrations of CO were consistently 0.0 ppm indoors and outdoors and therefore were below the ASHRAE concentration of concern (9 ppm).

Particulate matter or PM is the term for a mixture of solid particles and liquid droplets found in the air. It does not distinguish between the types of particles in the air (e.g., pollen, skin cells, mold spores, soil, etc.). Particulate matter includes "inhalable coarse particles," with diameters larger than 2.5 micrometers and smaller than 10 micrometers (PM<sub>10</sub>) and "fine particles," with diameters that are 2.5 micrometers and smaller (PM<sub>2.5</sub>). Particle loads expected to be a part of the school environment include carpet and clothing fiber, soil tracked from outside, paper dust, chalk dust, and dust and fibers from building materials. ASHRAE Standard 62.1–2013 suggests target indoor concentrations for PM<sub>2.5</sub> and PM<sub>10</sub> of 15 µg/m<sup>3</sup> and 50 µg/m<sup>3</sup>, respectively. These concentrations are taken from the EPA's National Ambient Air Quality Standards (NAAQS) based on annual arithmetic means deemed acceptable for outdoor air quality. Occupational standards and guidelines for particles are nearly an order of magnitude higher than concentrations typically found in non-occupational settings and are not appropriate for comparison.

Particle measurements were taken with an Aerocet 531 particulate monitor. The particle monitor takes a two minute averaged sample of particle concentrations in 5 size fractions (PM<sub>1</sub>, PM<sub>2.5</sub>, PM<sub>7</sub>, PM<sub>10</sub> and total suspended particles (TSP)). Results of particulate monitoring, presented in Table 2, revealed that PM<sub>2.5</sub> and PM<sub>10</sub> particle concentrations were well below the ASHRAE target concentrations in all areas monitored.

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**Table 2: Particle, Temperature, Relative Humidity, Carbon Dioxide and Carbon Monoxide  
Measurements Collected on June 8, 2016 at Glenwood Middle School**

Location	Time	PM1 ( $\mu\text{g}/\text{m}^3$ )	PM2.5 ( $\mu\text{g}/\text{m}^3$ )	PM7 ( $\mu\text{g}/\text{m}^3$ )	PM10 ( $\mu\text{g}/\text{m}^3$ )	TSP ( $\mu\text{g}/\text{m}^3$ )	Temp (°F)	Rh (%)	CO (ppm)	CO <sub>2</sub> (ppm)
CR 03	3:20 PM	0	0	2	2	4	78.1	31.2	0.0	365
RM 04	3:22 PM	0	0	1	1	3	75.3	34.0	0.0	405
CR 19	3:33 PM	0	0	1	2	5	75.8	34.9	0.0	295
CR 20	3:35 PM	0	0	1	1	2	74.6	36.9	0.0	279
CR 27	3:48 PM	0	0	1	2	3	74.9	39.6	0.0	300
CR 28	3:48 PM	0	0	0	0	1	74.2	40.0	0.0	283
CR 34	4:01 PM	0	0	1	2	6	74.0	42.4	0.0	311
FACS RM 35	4:05 PM	0	0	1	2	7	74.1	40.6	0.0	274
PCR 80	4:20 PM	0	0	2	3	4	71.2	40.8	0.0	399
PCR 81	4:22 PM	0	0	8	11	17	72.4	42.2	0.0	391
Out 1	4:36 PM	0	0	4	5	10	68.6	34.0	0.0	268
Out 2 CY	4:38 PM	0	0	3	5	12	70.4	34.6	0.0	250

CR = Classroom; PCR = Portable Classroom; CY = Courtyard; Bold type indicates measurements outside of guidelines

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**B. Air Monitoring for Fungal Identification and Counting on June 8, 2016**

In the absence of visual sources of mold amplification and growth in the classrooms, non-viable spore trap samples were collected from eight classrooms within the main school building (Classrooms 3, 4, 19, 20, 27, 28, 34, FACS Room 35), two portable classrooms (80 and 81) and two outdoor locations to determine whether there was a difference between mold spore loads inside the building versus outside.

The spore trap samples were collected using AllergenCo-D cassettes attached to a Buck BioAire™ sampling pump calibrated to 15 liter per minute (LPM) air flow. The samples were collected for a period of ten minutes, the time period recommended for spore trap sampling in a clean indoor environment. The spore trap samples were submitted to Aerobiology Laboratory for analysis. The sample results are reported as the spores per cubic meter of air (spores per m<sup>3</sup>) of hyphal fragments and total fungal spores. Depending upon the morphology of the spores, they were counted by their unique genus or were grouped into spores exhibiting common characteristics (e.g., *Penicillium*/*Aspergillus* group). Tables 3 and 4 present the results of the spore trap samples collected at Glenwood Middle School on June 8, 2016.

Indoor spore counts ranged from 327 to 1,833 total spores per cubic meter of air (m<sup>3</sup>) in the main school building and ranged from 5,273 to 7,807 in the portable classrooms on June 8, 2016. All indoor samples had total spore counts lower than the outdoor samples which ranged from 25,463 to 26,061 spores per m<sup>3</sup>. All individual spore types detected indoors had counts lower than the outdoor sample counts with the following exceptions: *Curvularia* spores in Classroom 20 (7 spores/m<sup>3</sup>) and Portable Classroom 80 (7 spores/ m<sup>3</sup>), and *Penicillium* and *Aspergillus* group spores in Classroom 3 (133 spores/m<sup>3</sup>). These spore counts were above the range of spores detected in the outdoor samples; however, the counts were generally considered low and not problematic.

The secondary colonizers *Chaetomium* and *Stachybotrys* were not detected in any samples. Hyphal elements were detected in eight of the ten indoor samples with counts of 40 to 147 elements per m<sup>3</sup>. Hyphal elements were detected in both outdoor samples from 1,067 to 1,333 elements/m<sup>3</sup>. Variations in outdoor spore concentrations are a function of diurnal rhythms of spore release, weather-related factors (e.g., wind, rain, snow cover, temperature), and physical spatial factors. Certificates of analysis are included as Attachment B.

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**Table 3: Results of Spore Trap Sampling in Selected Classrooms in Glenwood Middle School on June 8, 2016**

Location	Outside (Out 1)	Outside in Courtyard (Out 2)	Room 3 (GM 03)	Room 4 (GM 04)	Room 19 (GM 19)	Room 20 (GM 20)	Room 27 (GM 27)	Room 28 (GM 28)	Room 34 (GM 34)	Room 35 (GM 35)
Spore Type	Spores/ m <sup>3</sup>	Spores/m <sup>3</sup>	Spores/ m <sup>3</sup>	Spores/ m <sup>3</sup>	Spores/ m <sup>3</sup>	Spores/ m <sup>3</sup>	Spores/ m <sup>3</sup>	Spores/m <sup>3</sup>	Spores/ m <sup>3</sup>	Spores/ m <sup>3</sup>
<b>Alternaria</b>	93	67	-	-	-	-	-	7	-	-
<b>Ascospores</b>	4,686	3,834	200	147	87	387	280	247	287	253
<b>Basidiospores</b>	14,483	14,909	107	80	307	867	653	587	760	933
<b>Cladosporium</b>	4,047	5,538	173	80	147	240	440	260	300	527
<b>Curvularia</b>	-	-	-	-	-	<b>7</b>	-	-	-	-
<b>Epicoccum</b>	293	267	27	-	7	7	7	-	-	-
<b>Hyphal Elements</b>	1,333	1,067	40	-	40	-	40	40	40	73
<b>Penicillium/Aspergillus</b>	80	40	<b>133</b>	13	-	20	13	40	53	20
<b>Pestalotiopsis</b>	7	-	-	-	-	-	-	-	-	-
<b>Polythrincium</b>	20	7	-	-	-	-	-	-	-	-
<b>Rusts</b>	7	7	-	-	-	-	-	-	-	-
<b>Smuts, Periconia, Myxomycetes</b>	373	307	13	7	13	-	13	27	7	27
<b>Torula</b>	20	13	-	-	-	-	7	-	-	-
<b>Unknown</b>	20	7	-	-	-	-	13	-	-	-
<b>Total Fungi</b>	25,463	26,061	693	327	600	1,527	1,467	1,207	1,447	1,833

Bold numbers represent spore concentrations above the outdoor counts. Dashes designate none detected.



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**Table 4: Results of Spore Trap Sampling in Portable Classrooms  
at Glenwood Middle School on June 8, 2016**

Location	Outside (Out 1)	Outside in Courtyard (Out 2)	Room 80 (GM 80)	Room 81 (GM 81)
<b>Spore Type</b>	<b>Spores/ m<sup>3</sup></b>	<b>Spores/ m<sup>3</sup></b>	<b>Spores/m<sup>3</sup></b>	<b>Spores/m<sup>3</sup></b>
<b>Alternaria</b>	93	67	-	-
<b>Ascospores</b>	4,686	3,834	533	960
<b>Basidiospores</b>	14,483	14,909	4,427	3,253
<b>Cladosporium</b>	4,047	5,538	2,667	747
<b>Curvularia</b>	-	-	<b>7</b>	-
<b>Epicoccum</b>	293	267	7	40
<b>Hyphal Elements</b>	1,333	1,067	147	113
<b>Penicillium/Aspergillus</b>	80	40	-	80
<b>Pestalotiopsis</b>	7	-	-	-
<b>Polythrincium</b>	20	7	-	-
<b>Rusts</b>	7	7	-	-
<b>Smuts, Periconia, Myxomycetes</b>	373	307	20	67
<b>Torula</b>	20	13	-	-
<b>Unknown</b>	20	7	-	13
<b>Total Fungi</b>	25,463	26,061	7,807	5,273

Bold numbers represent spore concentrations above the outdoor counts.  
Dashes designate none detected.

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June 8, 2016**

**III. CONCLUSIONS AND RECOMMENDATIONS**

Aria Environmental, Inc. (AE) was contracted by Howard County Public School System to perform spore trap sampling at the Glenwood Middle School at the end of August 2015 due to air quality concerns expressed by staff and parents and to monitor the school after a recent heating, ventilation and air-conditioning (HVAC) system upgrade. AE made measurements for temperature, humidity, carbon monoxide, carbon dioxide and collected microbial spore trap samples on June 8, 2016.

Thermal comfort parameters of temperature and relative humidity were measured. Temperature and humidity measurements were acceptable compared to comfort ranges. Carbon dioxide, carbon monoxide and particle measurements were within acceptable ranges for good indoor air quality in all areas monitored.

Indoor spore counts ranged from 327 to 1,833 total spores per cubic meter of air (m<sup>3</sup>) in the main school building and ranged from 5,273 to 7,807 in the portable classrooms on June 8, 2016. All indoor samples had total spore counts lower than the outdoor samples which ranged from 25,463 to 26,061 spores per m<sup>3</sup>. All individual spore types detected indoors had counts lower than the outdoor sample counts with the following exceptions: *Curvularia* spores in Classroom 20 (7 spores/m<sup>3</sup>) and Portable Classroom 80 (7 spores/ m<sup>3</sup>), and *Penicillium* and *Aspergillus* group spores in Classroom 3 (133 spores/m<sup>3</sup>). These spore counts were above the range of spores detected in the outdoor samples; however, the counts were generally considered low and not problematic. Hyphal elements were detected in eight of the ten indoor samples with counts from 40 to 147 elements per m<sup>3</sup>. Hyphal elements were detected in both outdoor samples from 1,067 to 1,333 elements/m<sup>3</sup>. The secondary colonizers *Chaetomium* and *Stachybotrys* were not detected in any samples. Windows were not open during sampling.

Table 5 presents a summary of spore sampling results to date in the 2015 - 2016 school year. The indoor and outdoor ranges demonstrate the variable nature of spore counts.

**Table 5 – Summary of Spore Sampling Results to Date at GMS in the 2015-2016 School Year**

<b>Date</b>	<b>Indoor Spore Count Range Spores per m<sup>3</sup></b>	<b>Outdoor Spore Count Range Spores per m<sup>3</sup></b>
August 25, 2015	1,787 to 8,807	34,001 to 37,316
August 27, 2015	400 to 747	9,433 to 10,960
September 2, 2015	1,860 to 7,960	33,294 to 37,306
September 9, 2015	1,053 to 3,173	21,890 to 31,876
September 16, 2015	447 to 3,493	17,543 to 20,287
September 24, 2015	273 to 2,480	24,680 to 25,020
September 30, 2015	1,267 to 12,767	55,396 to 69,421
October 7, 2015	213 to 14,120	49,146 to 51,759
October 14, 2015	140 to 2,700	8,807 to 10,153
October 21, 2015	307 to 2,367	11,447 to 20,560
October 27, 2015	87 to 680	8,827 to 9,427
November 4, 2015	73 to 780	26,592 to 27,484
November 11, 2015	133 to 6,427	23,808 to 28,018
November 18, 2015	40 to 673	3,080 to 3,553
November 25, 2015	53 to 333	4,827 to 5,747
December 3, 2015	100 to 4,900	5,340 to 6,207
December 9, 2015	40 to 187	10,940 to 11,087

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June 8, 2016**

<b>Date</b>	<b>Indoor Spore Count Range Spores per m<sup>3</sup></b>	<b>Outdoor Spore Count Range Spores per m<sup>3</sup></b>
December 16, 2015	33 to 1,320	5,920 to 11,995
December 21, 2015	33 to 373	5,673 to 6,600
December 28, 2015	160 to 1,513	9,253 to 15,073
January 19, 2016	40 to 300	200 to 307
January 27, 2016	0 to 113	127 to 167
February 4, 2016	7 to 493	4,093 to 4,367
February 10, 2016	7 to 40	127 to 180
February 18, 2016	13 to 127	200 to 240
February 26, 2016	7 to 260	87 to 173
March 2, 2016	7 to 33	113 to 167
March 9, 2016	20 to 800	3,060 to 3,840
March 16, 2016	60 to 14,672	19,510 to 23,190
March 22, 2016	13 to 1,867	2,173 to 2,220
March 30, 2016	67 to 3,167	1,660 to 2,333
April 5, 2016	7 to 120	980 to 10,960
April 13, 2016	73 to 320	2,000 to 3,067
April 20, 2016	13 to 127	480 to 36,379
April 27, 2016	253 to 7,007	15,360 to 17,160
May 4, 2016	573 to 4,707	42,032 to 48,752
May 12, 2016	487 to 12,727	42,236 to 65,628
May 18, 2016	360 to 6,207	21,406 to 25,773
May 25, 2016	213 to 1,160	10,147 to 16,253
June 1, 2016	427 to 1,047	34,780 to 73,216
June 8, 2016	327 to 7,807	25,463 to 26,061

Spore measurements collected in classrooms were generally acceptable compared to outdoor samples with outdoor total spore counts 12 times higher on average than the indoor counts. Indoor sample total spore counts and individual spore counts were all lower than the outdoor sample counts with the exceptions described above. Follow up air sampling has been scheduled for June 15, 2016. Air sampling will be performed regularly in order to monitor changes in conditions affected by seasonal variations and the new HVAC system.

#### **IV. LIMITATIONS**

This report has been prepared for the exclusive use of the Howard County Public School System and/or their agents. This service has been performed in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made. Our conclusions and recommendations are based, in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided to us by others, unless otherwise noted. Our observations and recommendations are based upon conditions readily visible at the site at the time of our site visit, and upon current industry standards. Destructive sampling was not performed as part of this survey. No observations were made behind solid walls, ceilings or in pipe chases that weren't already openly visible.

By virtue of providing the services described in this report, the preparer does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies any conditions at the site that may present a potential danger to public health, safety, or the environment. It is the Client's

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June 8, 2016**

responsibility to notify the appropriate local, state, or federal public agencies as required by law, or otherwise to disclose, in a timely manner, any information that may be necessary to prevent any danger to public health, safety, or the environment. Under this scope of services, the preparer assumes no responsibility regarding response actions (e.g. abatement, removal, etc.) initiated as a result of these findings. Response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements, and should be performed by appropriately licensed personnel as warranted.

**Attachment A:**

**Building Layout and Sample Location Plan for June 8, 2016**

Spore sampling locations  
for June 8, 2016



Glenwood Middle School Floor Plan

As of 8/02/13



**Attachment B:**

**Report of Analysis and Chain of Custody Forms  
June 8, 2016**

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763

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1054 Spore Trap Analysis: SOP 3.8

Client Sample Number	<b>GM-03</b>				<b>Out 1</b>			
Sample Location	<b>Room 3</b>				<b>Outside</b>			
Sample Volume (L)	<b>150</b>				<b>150</b>			
Lab Sample Number	<b>16017763-001</b>				<b>16017763-011</b>			
<b>Spore Identification</b>	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	-	-	-	-	14	93	<1	-
ascospores	30	200	29	1/23	22	4686	18	-
basidiospores	16	107	15	1/136	68	14483	57	-
Cladosporium	26	173	25	1/23	19	4047	16	-
Epicoccum	4	27	4	1/11	44	293	1	-
hyphal elements	6	40	6	1/33	50	1333	5	-
Penicillium/Aspergillus group	20	133	19	2/1	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	2	13	2	1/28	56	373	1	-
Torula	-	-	-	-	3	20	<1	-
Unknown	-	-	-	-	3	20	<1	-
	Debris Rating <b>2</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	104	693	~100%	1/37	296	25463	~100%	-



Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763

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Client Sample Number	GM-04				Out 1			
Sample Location	Room 4				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-002				16017763-011			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	-	-	-	-	14	93	<1	-
ascospores	22	147	45	1/32	22	4686	18	-
basidiospores	12	80	24	1/181	68	14483	57	-
Cladosporium	12	80	24	1/51	19	4047	16	-
Epicoccum	-	-	-	-	44	293	1	-
hyphal elements	-	-	-	-	50	1333	5	-
Penicillium/Aspergillus group	2	13	4	1/6	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	1	7	2	1/56	56	373	1	-
Torula	-	-	-	-	3	20	<1	-
Unknown	-	-	-	-	3	20	<1	-
	Debris Rating <b>2</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	49	327	~100%	1/78	296	25463	~100%	-

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763

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Client Sample Number	GM-19				Out 1			
Sample Location	Room 19				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-003				16017763-011			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	-	-	-	-	14	93	<1	-
ascospores	13	87	14	1/54	22	4686	18	-
basidiospores	46	307	51	1/47	68	14483	57	-
Cladosporium	22	147	24	1/28	19	4047	16	-
Epicoccum	1	7	1	1/44	44	293	1	-
hyphal elements	6	40	7	1/33	50	1333	5	-
Penicillium/Aspergillus group	-	-	-	-	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	2	13	2	1/28	56	373	1	-
Torula	-	-	-	-	3	20	<1	-
Unknown	-	-	-	-	3	20	<1	-
	Debris Rating <b>2</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	90	600	~100%	1/42	296	25463	~100%	-

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763

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Client Sample Number	GM-20				Out 1			
Sample Location	Room 20				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-004				16017763-011			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	-	-	-	-	14	93	<1	-
ascospores	58	387	25	1/12	22	4686	18	-
basidiospores	130	867	57	1/17	68	14483	57	-
Cladosporium	36	240	16	1/17	19	4047	16	-
Curvularia	1	7	<1	-	-	-	-	-
Epicoccum	1	7	<1	1/44	44	293	1	-
hyphal elements	-	-	-	-	50	1333	5	-
Penicillium/Aspergillus group	3	20	1	1/4	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	-	-	-	-	56	373	1	-
Torula	-	-	-	-	3	20	<1	-
Unknown	-	-	-	-	3	20	<1	-
Debris Rating 2					Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 7 spr/m <sup>3</sup>				Analytical Sensitivity: 7 spr/m <sup>3</sup>			
Comments								
Total *See Footnotes	229	1527	~100%	1/17	296	25463	~100%	-

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763

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Client Sample Number	GM-27				Out 1			
Sample Location	Room 27				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-005				16017763-011			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	-	-	-	-	14	93	<1	-
ascospores	42	280	19	1/17	22	4686	18	-
basidiospores	98	653	45	1/22	68	14483	57	-
Cladosporium	66	440	30	1/9	19	4047	16	-
Epicoccum	1	7	<1	1/44	44	293	1	-
hyphal elements	6	40	3	1/33	50	1333	5	-
Penicillium/Aspergillus group	2	13	1	1/6	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	2	13	1	1/28	56	373	1	-
Torula	1	7	<1	1/3	3	20	<1	-
Unknown	2	13	1	1/2	3	20	<1	-
	Debris Rating <b>2</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	220	1467	~100%	1/17	296	25463	~100%	-

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763

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Client Sample Number	GM-28				Out 1			
Sample Location	Room 28				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-006				16017763-011			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	1	7	1	1/14	14	93	<1	-
ascospores	37	247	20	1/19	22	4686	18	-
basidiospores	88	587	49	1/25	68	14483	57	-
Cladosporium	39	260	22	1/16	19	4047	16	-
Epicoccum	-	-	-	-	44	293	1	-
hyphal elements	6	40	3	1/33	50	1333	5	-
Penicillium/Aspergillus group	6	40	3	1/2	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	4	27	2	1/14	56	373	1	-
Torula	-	-	-	-	3	20	<1	-
Unknown	-	-	-	-	3	20	<1	-
	Debris Rating <b>3</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	181	1207	~100%	1/21	296	25463	~100%	-

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763

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Client Sample Number	GM-34				Out 1			
Sample Location	Room 34				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-007				16017763-011			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	-	-	-	-	14	93	<1	-
ascospores	43	287	20	1/16	22	4686	18	-
basidiospores	114	760	53	1/19	68	14483	57	-
Cladosporium	45	300	21	1/13	19	4047	16	-
Epicoccum	-	-	-	-	44	293	1	-
hyphal elements	6	40	3	1/33	50	1333	5	-
Penicillium/Aspergillus group	8	53	4	1/2	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	1	7	<1	1/56	56	373	1	-
Torula	-	-	-	-	3	20	<1	-
Unknown	-	-	-	-	3	20	<1	-
	Debris Rating <b>2</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	217	1447	~100%	1/18	296	25463	~100%	-

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763  
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Client Sample Number	GM-35				Out 1			
Sample Location	FACS Room 35				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-008				16017763-011			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	-	-	-	-	14	93	<1	-
ascospores	38	253	14	1/18	22	4686	18	-
basidiospores	140	933	51	1/16	68	14483	57	-
Cladosporium	79	527	29	1/8	19	4047	16	-
Epicoccum	-	-	-	-	44	293	1	-
hyphal elements	11	73	4	1/18	50	1333	5	-
Penicillium/Aspergillus group	3	20	1	1/4	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	4	27	1	1/14	56	373	1	-
Torula	-	-	-	-	3	20	<1	-
Unknown	-	-	-	-	3	20	<1	-
	Debris Rating <b>3</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	275	1833	~100%	1/14	296	25463	~100%	-

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763  
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Client Sample Number	GM-80				Out 1			
Sample Location	Portable Classroom 80				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-009				16017763-011			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	14	93	<1	-
ascospores	10	533	7	1/9	22	4686	18	-
basidiospores	83	4427	57	1/3	68	14483	57	-
Cladosporium	50	2667	34	1/2	19	4047	16	-
Curvularia	1	7	<1	-	-	-	-	-
Epicoccum	1	7	<1	1/44	44	293	1	-
hyphal elements	22	147	2	1/9	50	1333	5	-
Penicillium/Aspergillus group	-	-	-	-	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	3	20	<1	1/19	56	373	1	-
Torula	-	-	-	-	3	20	<1	-
Unknown	-	-	-	-	3	20	<1	-
	Debris Rating 3				Debris Rating 3			
Analytical Sensitivity	Analytical Sensitivity: 7 spr/m³				Analytical Sensitivity: 7 spr/m³			
Comments								
Total *See Footnotes	170	7807	~100%	1/3	296	25463	~100%	-



Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763  
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Client Sample Number	GM-81				Out 1			
Sample Location	Portable Classroom 81				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-010				16017763-011			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	-	-	-	-	14	93	<1	-
ascospores	18	960	18	1/5	22	4686	18	-
basidiospores	61	3253	62	1/4	68	14483	57	-
Cladosporium	14	747	14	1/5	19	4047	16	-
Epicoccum	6	40	1	1/7	44	293	1	-
hyphal elements	17	113	2	1/12	50	1333	5	-
Penicillium/Aspergillus group	12	80	2	1/1	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	-	-	-	-	3	20	<1	-
Rusts	-	-	-	-	1	7	<1	-
Smuts,Periconia,Myxomycetes	10	67	1	1/6	56	373	1	-
Torula	-	-	-	-	3	20	<1	-
Unknown	2	13	<1	1/2	3	20	<1	-
	Debris Rating <b>3</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	140	5273	~100%	1/5	296	25463	~100%	-

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763  
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Client Sample Number	Out 2 CY				Out 1			
Sample Location	Outside Courtyard				Outside			
Sample Volume (L)	150				150			
Lab Sample Number	16017763-012				16017763-011			
Spore Identification	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out	Raw Ct	spr/m <sup>3</sup>	% Ttl	In/Out
Alternaria	10	67	<1	1/1	14	93	<1	-
ascospores	18	3834	15	1/1	22	4686	18	-
basidiospores	70	14909	57	1/1	68	14483	57	-
Cladosporium	26	5538	21	1/1	19	4047	16	-
Epicoccum	40	267	1	1/1	44	293	1	-
hyphal elements	40	1067	4	1/1	50	1333	5	-
Penicillium/Aspergillus group	6	40	<1	1/2	12	80	<1	-
Pestalotiopsis	-	-	-	-	1	7	<1	-
Polythrincium	1	7	<1	1/3	3	20	<1	-
Rusts	1	7	<1	1/1	1	7	<1	-
Smuts,Periconia,Myxomycetes	46	307	1	1/1	56	373	1	-
Torula	2	13	<1	1/2	3	20	<1	-
Unknown	1	7	<1	1/3	3	20	<1	-
	Debris Rating <b>3</b>				Debris Rating <b>3</b>			
Analytical Sensitivity	Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>				Analytical Sensitivity: <b>7 spr/m<sup>3</sup></b>			
Comments								
Total *See Footnotes	261	26061	~100%	1/1	296	25463	~100%	-

Aria Environmental  
P.O. Box 286  
Woodbine, Maryland 21797  
Attn: Julie Barth  
Project: **PO# J15-876 GMS Glenwood MS**  
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 06/08/2016  
Date Received: 06/10/2016  
Date Analyzed: 06/15/2016  
Date Reported: 06/15/2016  
Project ID: 16017763  
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## Footnotes and Additional Report Information

### Debris Rating Table

1	Minimal (<5%) particulate present	Reported values are minimally affected by particulate load.
2	5% to 25% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
3	26% to 75% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
4	75% to 90% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
5	Greater than 90% of the trace occluded with particulate	Quantification not possible due to large negative bias. A new sample should be collected at a shorter time interval or other measures taken to reduce particulate load.

1. Penicillium/Aspergillus group spores are characterized by their small size, round to ovoid shape, being unicellular, and usually colorless to lightly pigmented. There are numerous genera of fungi whose spore morphology is similar to that of the Penicillium/Aspergillus type. Two common examples would be Paecilomyces and Acremonium. Although the majority of spores placed in this group are Penicillium, Aspergillus, or a combination of both. Keep in mind that these are not the only two possibilities.

2. Ascospores are sexually produced fungal spores formed within an ascus. An ascus is a sac-like structure designed to discharge the ascospores into the environment, e.g. Ascobolus.

3. Basidiospores are typically blown indoors from outdoors and rarely have an indoor source. However, in certain situations a high basidiospore count indoors may be indicative of a wood decay problem or wet soil.

4. The colorless group contains colorless spores which were unidentifiable to a specific genus. Examples of this group include Acremonium, Aphanocladium, Beauveria, Chrysosporium, Engyodontium microconidia, yeast, some arthrospores, as well as many others.

5. Hyphae are the vegetative mode of fungi. Hyphal elements are fragments of individual Hyphae. They can break apart and become airborne much like spores and are potentially allergenic. A mass of hyphal elements is termed the mycelium. Hyphae in high concentration may be indicative of colonization.

6. Dash (-) in this report, under raw count column means 'not detected (ND)'; otherwise 'not applicable' (NA).

7. The positive-hole correction factor is a statistical tool which calculates a probable count from the raw count, taking into consideration that multiple particles can impact on the same hole; for this reason the sum of the calculated counts may be less than the positive hole corrected total.

8. Due to rounding totals may not equal 100%.

9. Analytical Sensitivity for each spores is different for Non-viable sample when the spores are read at different percentage. Analytical Sensitivity is calculated as  $\text{spr}/\text{m}^3$  divided by raw count.  $\text{spr}/\text{m}^3 = \text{raw counts} \times (100/\% \text{ read}) \times (1000/\text{Sample volume})$ . If Analytical Sensitivity is 13  $\text{spr}/\text{m}^3$  at 100% read, Analytical Sensitivity at 50% read would be 27  $\text{spr}/\text{m}^3$ , which is 2 times higher.

10. Minimum Reporting Limits (MRL) for BULKS, DUSTS, SWABS, and WATER samples are a calculation based on the sample size and the dilution plate on which the organism was counted. Results are a compilation of counts taken from multiple dilutions and multiple medias. This means that every genus of fungi or bacteria recovered can be counted on the plate on which it is best represented.

11. If the final quantitative result is corrected for contamination based on the blank, the blank correction is stated in the sample comments section of the report.

12. Analysis conducted on non-viable spore traps is completed using Indoor Environmental Standards Organization (IESO) Standard 2210.

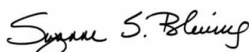
13. The results in this report are related to this project and these samples only.

14. For samples with an air volume of < 100L, the number of significant figures in the result should be considered (2) two. For samples with air volumes between 100-999L, the number of significant figures in the result should be considered (3) three. For example, a sample with a result of 55,443  $\text{spr}/\text{m}^3$  from a 75L sample using significant figures should be considered 55,000. The same result of 55,443 from a 150L sample using significant figures should be considered 55,400  $\text{spr}/\text{m}^3$ .

15. If the In/Out ratio is greater than 100 times it is indicated >100/1, rather than showing the real value.

#### Terminology Used in Direct Exam Reporting

**Conidiophores are a type of modified hyphae from which spores are born. When seen on a surface sample in moderate to numerous concentrations they may be indicative of fungal growth.**



Suzanne S. Blevins, B.S., SM (ASCP)  
Laboratory Director

16 017763

16017763



AZ, CO, GA, VA, NJ



NVLAP Lab Code 200860-0 (CO)  
NVLAP Lab Code 200829-0 (VA)  
NVLAP Lab Code 500097-0 (AZ)



LAB #192683 (CO)  
LAB #102977 (GA)  
LAB #163063 (VA)  
LAB #210229 (AZ)

Page 1 of 1

<b>Aerobiology Client</b>		Aria Environmental, Inc.	
Field Contact	Julie Barth	Collected By/Date:	06/08/16
Reporting Address	PO Box 286, Woodbine, MD 21797	Relinquished By/Date:	06/09/16
Billing Address	SAME	Received By/Date:	6/10/2016
Phone/Fax	410-549-5774/410-549-4488	Sampler Type	Andersen SAS
Reporting Email (s)	jbarth@ariaenviro.com	Sample Aire	
		Aero Trap	
		Other	AllergencoD
		BioCulture	
		PO#/Job#:	J15-876 GMS
		Project Name:	Glenwood MS
Routine	<input checked="" type="radio"/> 24 Hour <input type="radio"/> Same Day <input type="radio"/> 4 Hour <input type="radio"/> 2 Hour <input type="radio"/> 5 Day (Asbestos Only)	Notes:	
<b>SAMPLING LOCATION ZIP CODE</b>		21738	
		CC Info:	

	Sample No.	Test Code	Sample Location	Total Volume/Area
1	GM-03	1054	Room 3	150 L
2	GM-04	1054	Room 4	150 L
3	GM-19	1054	Room 19	150 L
4	GM-20	1054	Room 20	150 L
5	GM-27	1054	Room 27	150 L
6	GM-28	1054	Room 28	150 L
7	GM-34	1054	Room 34	150 L
8	GM-35	1054	FACS Room 35	150 L
9	GM-80	1054	Portable Classroom 80	150 L
10	GM-81	1054	Portable Classroom 81	150 L
11	Out 1	1054	Outside	150 L
12	Out 2 CY	1054	Outside Courtyard	150 L
13				
14				

1054	Direct, Non-viable Spore Trap	1015	Culture - WATER Legionella
1051	Direct, Qualitative- Swab/Tape	1017	Culture - SWAB Legionella
1050	Direct, Qualitative- Bulk	1010	WATER - Potable - E. coli/total coliforms
1005	AIR Culture - Bacterial Count w/ ID's	1012	SWAB - E. coli/total coliforms
1030	AIR Culture - Fungal Count w/ ID's	1028	Sewage Screen (E. coli/Enterococcus/fecal coliforms)
1006	SWAB Culture - Bacterial Count w/ ID's	2056	Heterotrophic Plate Count
1031	SWAB Culture - Fungal Count w/ ID's	3001	ASBESTOS - Point count
1008	BULK Culture - Bacterial Count w/ ID's	3002	ASBESTOS - PLM Analysis
1033	BULK Culture - Fungal Count w/ ID's	3003	ASBESTOS - Particle characterization
1007	WATER Culture - Bacterial Count w/ID's	3004	ASBESTOS - PCM Analysis