SPORE SAMPLING REPORT
FOR
GLENWOOD MIDDLE SCHOOL
AUGUST 27, 2015

PREPARED FOR:

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

PREPARED BY:

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

AUGUST 27, 2015

150876

SPORE TRAP SAMPLING REPORT
FOR
GLENWOOD MIDDLE SCHOOL

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AUGUST 25, 2015

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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 recent heating, ventilation and air-conditioning (HVAC) system upgrade. AE made measurements for temperature, humidity, carbon monoxide, carbon dioxide and particulate matter and collected microbial spore trap sampling for fungal spore identification and counting on August 25, 2015 as part of a series of spore sampling events that will occur in the first month of the 2015 - 2016 school year and less frequently throughout the school year. This report presents the results of air sampling made on August 25, 2015.

I. BACKGROUND

Representatives from Aria Environmental, Inc. (AE) visited Glenwood Middle School on August 25, 2015 to perform air monitoring in response to an ongoing indoor air quality complaint at the school. Indoor air samples were collected from classrooms 1, 2, 10, 13, 21, 22, 24, 28, 31, FACS Room 35, Music Room 37 and Art Room 38. Outdoor air samples were also collected for comparison purposes in the one courtyard and immediately outside classroom 35 (FACS). 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 warm and sunny with a light breeze.

II. OBSERVATIONS AND MEASUREMENTS

A. Observations and Measurements on August 25, 2015

The room air temperature measured between 3:00 PM and 5:00 PM ranged from 70.1 to 78.1° F with an average of 74.8° F. The temperatures are considered acceptable for summer thermal comfort. The indoor relative humidity ranged from 36.7 to 44.4 percent. 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[a]

Relative Humidity	Winter Temperature	Summer Temperature
30%	68.5°F – 76.0°F	74.0°F – 80°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

[a]adapted from ASHRAE Standard 55-2013

The outside temperature at 4:45 PM was 85.9° F and the outdoor relative humidity was 33.7% in the back of the school near the FACS Room 35, and the outside temperature at 4:32 PM was 81.2° F and the relative humidity was 32.8% in the courtyard between the 6th and 7th grade wings. No windows or doors were observed to be open during the monitoring period. The U.S. Environmental Protection Agency (EPA) recommends maintaining indoor relative humidity below 60% and ideally between 30 and 50%. The indoor humidity measurements were within the ranges recommended for thermal comfort. The school was on a summer cooling schedule at the time of monitoring.

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 hours when the rooms were unoccupied. Carbon dioxide concentrations ranged from 347 to 554 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 326 to 329 ppm. Carbon dioxide concentrations were within the comfort parameters established by ASHRAE.

Carbon monoxide is mainly attributed to incomplete combustion. Concentrations of CO ranged from 0.0 to 0.5 ppm indoors and the outdoor concentrations ranged from 0.0 to 0.3 ppm. CO concentrations were below the ASHRAE concentration of concern of 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 10) and "fine particles," with diameters that are 2.5 micrometers and smaller (PM 2.5). 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 2.5 and PM 10 of 15 $\mu g/m^3$ and 50 $\mu g/m^3$, 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 1, PM 2.5, PM 7, PM 10 and total suspended particles (TSP)). Results of particulate monitoring, presented in Table 2, revealed that PM 2.5 and PM 10 particle concentrations were well below the ASHRAE target concentrations in all areas monitored.

Table 2: Particle, Temperature, Relative Humidity, Carbon Dioxide and Carbon Monoxide Measurements Collected on August 25, 2015 at Glenwood Middle School

Location	Time	PM1 (µg/m³)	PM2.5 (µg/m³)	PM7 (µg/m³)	PM10 (µg/m³)	TSP (µg/m³)	Temp (°F)	Rh (%)	CO (ppm)	CO_2 (ppm)
Classroom 2	3:14 PM	0	0	2	3	5	75.5	39.9	0.3	554
Classroom 10	2:59 PM	0	0	3	3	6	78.1	36.7	0.5	474
Classroom 21	3:22 PM	0	0	2	3	4	75.5	38.1	0.3	484
Classroom 22	3:19 PM	0	0	2	3	8	75	38	0.3	420
Classroom 13	3:50 PM	0	0	2	2	3	70.1	44.4	0.3	392
Classroom 28	3:57 PM	0	0	2	2	2	74.5	38.3	0.3	392
Classroom 31	3:54 PM	0	0	1	2	3	73.6	41.7	0.0	413
Classroom 35	4:12 PM	0	0	2	2	3	75.2	36.9	0.2	398
Classroom 37	4:23 PM	0	0	2	4	5	74.9	36.8	0.2	347
Classroom 38	4:16 PM	0	0	2	3	3	74.6	38.8	0.2	355
Classroom 1	3:04 PM	0	1	5	9	11	75.8	39.7	0.2	497
Classroom 24	4:01 PM	0	0	2	2	3	74.8	38.1	0.2	379
Outside 1 behind Classroom 35	4:45 PM	0	0	5	7	13	85.9	33.7	0.0	329
Outside in Courtyard between Classrooms 17 and 28	4:32 PM	0	0	4	4	23	81.2	32.8	0.3	326

B. Air Monitoring for Fungal Identification and Counting on August 25, 2015

In the absence of visual sources of mold amplification and growth in the classrooms, non-viable spore trap samples were collected from twelve classrooms (classrooms 1, 2, 10, 13, 21, 22, 24, 28, 31, 35, 37 and 38) 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 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^3) 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). Table 3 presents the results of the spore trap samples collected at Glenwood Middle School on August 25, 2015.

Indoor spore counts ranged from 1,787 to 8,087 total spores per cubic meter of air (m^3). All indoor samples had total spore counts lower than the outdoor samples which ranged from 33,316 to 34,001 spores per m^3. None of the individual spore types were higher in the indoor samples compared to the outdoor samples. Windows were not open during sampling.

No secondary colonizers including Chaetomium or Stachybotrys were detected in the air samples. Hyphal elements were detected in nine of the twelve indoor samples and ranged from 7 to 107 spores/m^3, however, all detected indoor hyphal fragments were lower than the outdoor sample hyphal element counts ranging from 327 to 460 fragments per m^3 in the two outdoor samples. 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.

Table 3: Results of Spore Trap Sampling in Selected Classrooms in Glenwood Middle School on August 25, 2015

Location	Outside near Classroom 35 (Out 1)	Outside in Courtyard near Room 17 (Out 2)	Room 1 (GM 01)	Room 2 (GM 02)	Room 10 (GM 10)	Room 13 (GM 13)	Room 21 (GM 21)	Room 22 (GM 22)
Spore Type	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**
Alternaria	120	133	-	-	13	7	7	-
Ascospores	6,816	7,029	13	80	133	87	53	267
Basidiospores	17,465	18,956	667	1,200	1,093	2,453	1,813	4,480
Cercospora	173	120	-	-	-	-	-	-
Cladosporium	11,502	6,603	1,013	640	1,467	640	180	960
Colorless	20	20	-	-	-	-	-	-
Curvularia	13	20	-	7	-	-	-	-
Dreschslera/ Bipolaris	20	7	-	-	-	-	-	-
Epicoccum	80	167	13	-	7	-	13	-
Fusicladium	7	13	-	-	-	-	-	-
Hyphal Elements	327	460	7	20	27	27	67	-
Oidium	-	27	-	-	-	-	7	-
Penicillium/ Aspergillus	553	113	67	120	87	107	140	87
Pithomyces	53	47	-	-	-	-	7	13
Polythrincium	7	7	-	-	-	-	-	-
Pyricularia	40	7	-	7	-	-	-	-
Rusts	13	80	-	-	-	-	-	-
Smuts, Periconia, myxomycetes	53	127	-	7	7	7	7	33
Spegazzinia	7	7	-	-	-	-	-	-
Torula	33	60	7	-	-	7	-	-
Unknown	13	-	-	-	-	-	-	-
Total Fungi	37,316	34,001	1,787	2,080	2,833	3,333	2,293	5,840

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

Table 3: Results of Spore Trap Sampling in Selected Classrooms in Glenwood Middle School on August 25, 2015 (Continued)

Location	Outside near Classroom 35 (Out 1)	Outside in Courtyard near Room 17 (Out 2)	Room 24 (GM 24)	Room 28 (GM 28)	Room 31 (GM 31)	Room 35 (GM 35)	Room 37 (GM 37)	Room 38 (GM 38)
Spore Type	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**	**Spores/ m^3**
Alternaria	120	133	-	-	-	-	-	7
Ascospores	6,816	7,029	133	693	480	1,493	1,173	1,280
Basidiospores	17,465	18,956	2,347	2,880	3,147	3,307	2,027	3,840
Cercospora	173	120	-	-	-	-	7	7
Cladosporium	11,502	6,603	507	533	1,013	40	1,387	2,667
Colorless	20	20	-	-	-	-	-	-
Curvularia	13	20	-	-	-	-	-	20
Dreschslera/ Bipolaris	20	7	-	-	-	-	7	7
Epicoccum	80	167	-	7	-	-	-	7
Fusicladium	7	13	-	-	-	-	-	-
Hyphal Elements	327	460	13	-	-	20	107	67
Oidium	-	27	-	-	-	-	-	-
Penicillium/ Aspergillus	553	113	120	133	160	20	93	127
Pithomyces	53	47	-	-	-	7	33	13
Polythrincium	7	7	-	-	-	-	-	7
Pyricularia	40	7	-	-	-	-	-	-
Rusts	13	80	-	-	-	-	-	13
Smuts, Periconia, myxomycetes	53	127	7	-	-	13	27	20
Spegazzinia	7	7	-	-	-	-	-	-
Torula	33	60	-	-	-	-	-	-
Unknown	13	-	-	-	-	-	-	7
Total Fungi	37,316	34,001	3,127	4,247	4,800	4,900	4,860	8,087

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

III. CONCLUSIONS AND RECOMMENDATIONS

Thermal comfort parameters of temperature and humidity were measured on August 25, 2015 and found to be within the comfort ranges established by ASHRAE. Carbon dioxide, carbon monoxide and particulate matter measurements were within acceptable ranges for good indoor air quality in all areas.

Indoor spore counts ranged from 1,787 to 8,087 total spores per cubic meter of air (m^3). All indoor samples had total spore counts lower than the two outdoor samples which ranged from 33,316 to 34,001 spores per m^3.

Spore measurements collected in classrooms were generally acceptable compared to outdoor samples with outdoor total spore counts exceeding indoors. Indoor sample total spore counts and individual spore counts were all lower than the outdoor sample counts. Follow up air sampling is scheduled for August 27, 2015 and will be performed on a weekly basis until the end of September in order to monitor changes in conditions affected by seasonal variations and the new HVAC system.

IV. LIMITATIONS

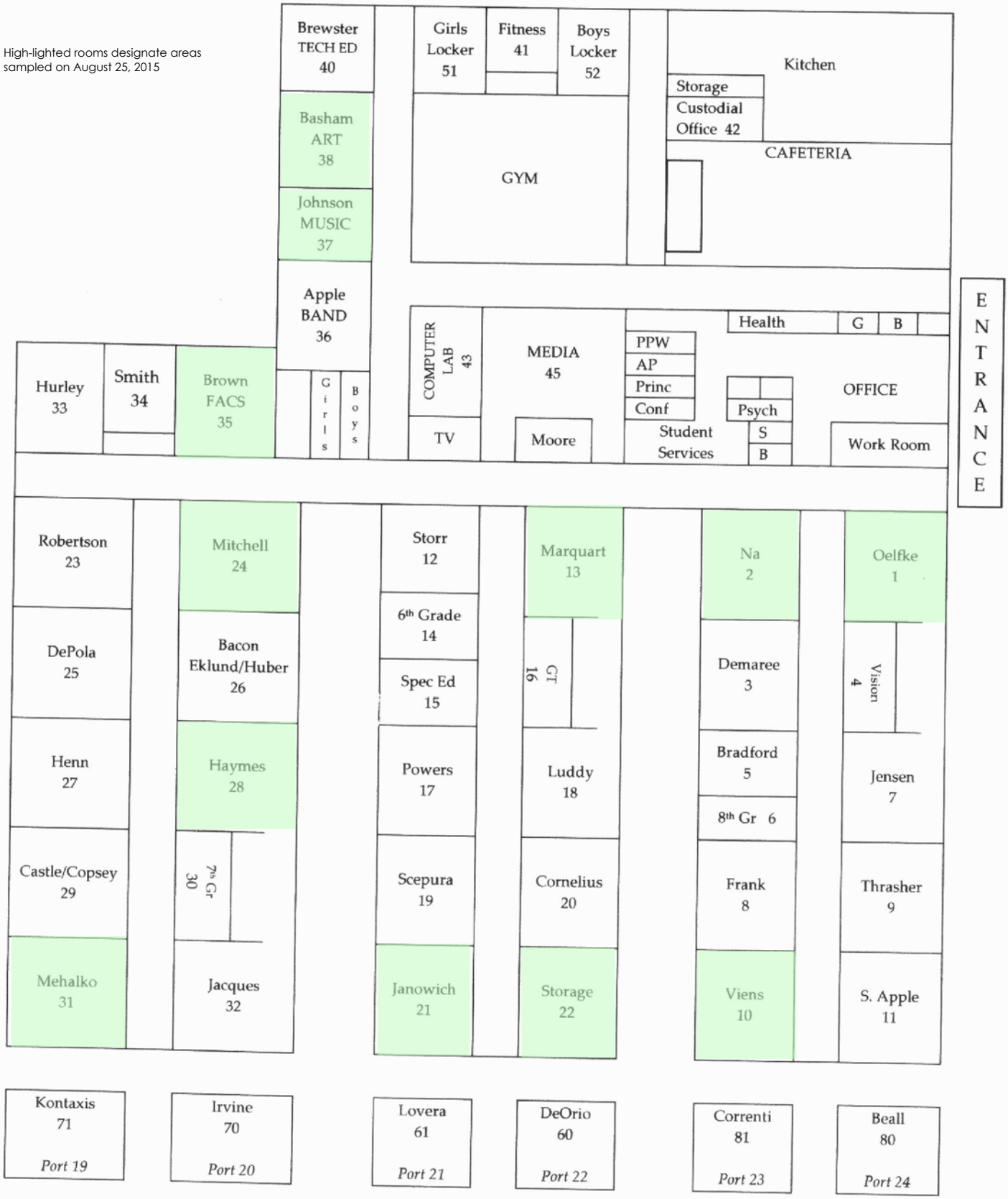
This report has been prepared for the exclusive use of the Howard County Public School System and/or their agents. This service has been performed in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made. Our conclusions and recommendations are based, 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 my present a potential danger to public health, safety, or the environment. It is the Client's 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 August 25, 2015

High-lighted rooms designate areas sampled on August 25, 2015



Glenwood Middle School Floor Plan

As of 8/02/13

Sample Location Plan for An Indoor Air Quality Investigation From October 18, 2013 to October 20, 2014

N

Attachment B:

Report of Analysis and Chain of Custody Forms
August 25, 2015

Aerobiology Laboratory Associates, Incorporated
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43760 Trade Center Place
Suite 100
Sterling, Virginia 20166
(877) 648-9150
www.aerobiology.net

Certificate of Analysis
EMLAP# 102977

Aria Environmental
P.O. Box 286
Woodbine, Maryland 21797
Attn: Julie Barth
Project: **GMS Allergenco D**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 08/25/2015
Date Received: 08/26/2015
Date Analyzed: 08/26/2015
Date Reported: 08/26/2015
Project ID: 15019650

1054 Spore Trap Analysis: SOP 3.8

Client Sample Number	**Gm01**				**Out 1**			
Sample Location	**CR01**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-001**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	18	120	<1	-
ascospores	2	13	1	1/511	32	6816	18	-
basidiospores	25	667	37	1/26	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	38	1013	57	1/11	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	2	13	1	1/6	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	1	7	<1	1/49	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	10	67	4	1/8	83	553	1	-
Pithomyces	-	-	-	-	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	-	-	-	-	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	1	7	<1	1/5	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	79	1787	~100%	1/21	398	37316	~100%	-

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www.aerobiology.net

Aria Environmental
P.O. Box 286
Woodbine, Maryland 21797
Attn: Julie Barth
Project: **GMS Allergenco D**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 08/25/2015
Date Received: 08/26/2015
Date Analyzed: 08/26/2015
Date Reported: 08/26/2015
Project ID: 15019650

Client Sample Number	**Gm02**				**Out 1**			
Sample Location	**CR02**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-002**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	18	120	<1	-
ascospores	12	80	4	1/85	32	6816	18	-
basidiospores	45	1200	58	1/15	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	24	640	31	1/18	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	1	7	<1	1/2	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	-	-	-	-	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	3	20	1	1/16	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	18	120	6	1/5	83	553	1	-
Pithomyces	-	-	-	-	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	1	7	<1	1/6	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	1	7	<1	1/8	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	105	2080	~100%	1/18	398	37316	~100%	-

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Aria Environmental
P.O. Box 286
Woodbine, Maryland 21797
Attn: Julie Barth
Project: **GMS Allergenco D**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 08/25/2015
Date Received: 08/26/2015
Date Analyzed: 08/26/2015
Date Reported: 08/26/2015
Project ID: 15019650

Client Sample Number	**Gm10**				**Out 1**			
Sample Location	**CR10**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-003**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	2	13	<1	1/9	18	120	<1	-
ascospores	20	133	5	1/51	32	6816	18	-
basidiospores	41	1093	39	1/16	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	55	1467	52	1/8	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	1	7	<1	1/12	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	4	27	1	1/12	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	13	87	3	1/6	83	553	1	-
Pithomyces	-	-	-	-	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	1	7	<1	1/8	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	137	2833	~100%	1/13	398	37316	~100%	-

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Aria Environmental
P.O. Box 286
Woodbine, Maryland 21797
Attn: Julie Barth
Project: **GMS Allergenco D**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 08/25/2015
Date Received: 08/26/2015
Date Analyzed: 08/26/2015
Date Reported: 08/26/2015
Project ID: 15019650

Client Sample Number	**Gm13**				**Out 1**			
Sample Location	**CR13**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-004**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	1	7	<1	1/18	18	120	<1	-
ascospores	13	87	3	1/79	32	6816	18	-
basidiospores	46	2453	74	1/7	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	24	640	19	1/18	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	-	-	-	-	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	4	27	1	1/12	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	16	107	3	1/5	83	553	1	-
Pithomyces	-	-	-	-	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	1	7	<1	1/8	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	1	7	<1	1/5	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	106	3333	~100%	1/11	398	37316	~100%	-

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Attn: Julie Barth
Project: **GMS Allergenco D**
Condition of Sample(s) Upon Receipt: Acceptable

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Project ID: 15019650

Client Sample Number	**Gm21**				**Out 1**			
Sample Location	**CR21**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-005**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	1	7	<1	1/18	18	120	<1	-
ascospores	8	53	2	1/128	32	6816	18	-
basidiospores	34	1813	79	1/10	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	27	180	8	1/64	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	2	13	1	1/6	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	10	67	3	1/5	49	327	1	-
Oidium	1	7	<1	-	-	-	-	-
Penicillium/Aspergillus group	21	140	6	1/4	83	553	1	-
Pithomyces	1	7	<1	1/8	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	1	7	<1	1/8	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	106	2293	~100%	1/16	398	37316	~100%	-

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Condition of Sample(s) Upon Receipt: Acceptable

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Date Reported: 08/26/2015
Project ID: 15019650

Client Sample Number	**Gm22**				**Out 1**			
Sample Location	**CR22**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-006**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	18	120	<1	-
ascospores	10	267	5	1/26	32	6816	18	-
basidiospores	42	4480	77	1/4	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	36	960	16	1/12	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	-	-	-	-	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	-	-	-	-	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	13	87	1	1/6	83	553	1	-
Pithomyces	2	13	<1	1/4	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	5	33	1	1/2	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	108	5840	~100%	1/6	398	37316	~100%	-

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Project ID: 15019650

Client Sample Number	**Gm24**				**Out 1**			
Sample Location	**CR24**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-007**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	18	120	<1	-
ascospores	5	133	4	1/51	32	6816	18	-
basidiospores	44	2347	75	1/7	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	19	507	16	1/23	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	-	-	-	-	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	2	13	<1	1/25	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	18	120	4	1/5	83	553	1	-
Pithomyces	-	-	-	-	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	1	7	<1	1/8	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	89	3127	~100%	1/12	398	37316	~100%	-

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Client Sample Number	**Gm28**				**Out 1**			
Sample Location	**CR28**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-008**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	18	120	<1	-
ascospores	13	693	16	1/10	32	6816	18	-
basidiospores	54	2880	68	1/6	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	10	533	13	1/22	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	1	7	<1	1/12	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	-	-	-	-	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	20	133	3	1/4	83	553	1	-
Pithomyces	-	-	-	-	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	-	-	-	-	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **2**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	98	4247	~100%	1/9	398	37316	~100%	-

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Project ID: 15019650

Client Sample Number	**Gm31**				**Out 1**			
Sample Location	**CR31**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-009**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	18	120	<1	-
ascospores	9	480	10	1/14	32	6816	18	-
basidiospores	59	3147	66	1/6	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	19	1013	21	1/11	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	-	-	-	-	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	-	-	-	-	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	24	160	3	1/3	83	553	1	-
Pithomyces	-	-	-	-	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	-	-	-	-	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **2**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	111	4800	~100%	1/8	398	37316	~100%	-

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Project: **GMS Allergenco D**
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Project ID: 15019650

Client Sample Number	**Gm35**				**Out 1**			
Sample Location	**CR35**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-010**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	18	120	<1	-
ascospores	28	1493	30	1/5	32	6816	18	-
basidiospores	62	3307	67	1/5	82	17465	47	-
Cercospora	-	-	-	-	26	173	<1	-
Cladosporium	6	40	1	1/288	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	-	-	-	-	3	20	<1	-
Epicoccum	-	-	-	-	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	3	20	<1	1/16	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	3	20	<1	1/28	83	553	1	-
Pithomyces	1	7	<1	1/8	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	2	13	<1	1/4	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **2**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	105	4900	~100%	1/8	398	37316	~100%	-

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Client Sample Number	**Gm37**				**Out 1**			
Sample Location	**CR37**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-011**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	-	-	-	-	18	120	<1	-
ascospores	22	1173	24	1/6	32	6816	18	-
basidiospores	38	2027	42	1/9	82	17465	47	-
Cercospora	1	7	<1	1/26	26	173	<1	-
Cladosporium	26	1387	29	1/8	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	-	-	-	-	2	13	<1	-
Drechslera/Bipolaris group	1	7	<1	1/3	3	20	<1	-
Epicoccum	-	-	-	-	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	16	107	2	1/3	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	14	93	2	1/6	83	553	1	-
Pithomyces	5	33	1	1/2	8	53	<1	-
Polythrincium	-	-	-	-	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	-	-	-	-	2	13	<1	-
Smuts,Periconia,Myxomycetes	4	27	1	1/2	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments	Large amount of particulate and fibers seen.				Large amount of particulate and fibers seen.			
Total *See Footnotes	127	4860	~100%	1/8	398	37316	~100%	-

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Client Sample Number	**Gm38**				**Out 1**			
Sample Location	**CR38**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-012**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	1	7	<1	1/18	18	120	<1	-
ascospores	24	1280	16	1/5	32	6816	18	-
basidiospores	72	3840	47	1/5	82	17465	47	-
Cercospora	1	7	<1	1/26	26	173	<1	-
Cladosporium	50	2667	33	1/4	54	11502	31	-
Colorless	-	-	-	-	3	20	<1	-
Curvularia	3	20	<1	2/1	2	13	<1	-
Drechslera/Bipolaris group	1	7	<1	1/3	3	20	<1	-
Epicoccum	1	7	<1	1/12	12	80	<1	-
Fusicladium	-	-	-	-	1	7	<1	-
hyphal elements	10	67	1	1/5	49	327	1	-
Oidium	-	-	-	-	-	-	-	-
Penicillium/Aspergillus group	19	127	2	1/4	83	553	1	-
Pithomyces	2	13	<1	1/4	8	53	<1	-
Polythrincium	1	7	<1	1/1	1	7	<1	-
Pyricularia	-	-	-	-	6	40	<1	-
Rusts	2	13	<1	1/1	2	13	<1	-
Smuts,Periconia,Myxomycetes	3	20	<1	1/3	8	53	<1	-
Spegazzinia	-	-	-	-	1	7	<1	-
Torula	-	-	-	-	5	33	<1	-
Unknown	1	7	<1	1/2	2	13	<1	-
	Debris Rating **2**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments					Large amount of particulate and fibers seen.			
Total *See Footnotes	191	8087	~100%	1/5	398	37316	~100%	-

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Client Sample Number	**Out 2**				**Out 1**			
Sample Location	**Outside in CV**				**Outside**			
Sample Volume (L)	**150**				**150**			
Lab Sample Number	**15019650-014**				**15019650-013**			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Alternaria	20	133	<1	1/1	18	120	<1	-
ascospores	33	7029	21	1/1	32	6816	18	-
basidiospores	89	18956	56	1/1	82	17465	47	-
Cercospora	18	120	<1	1/1	26	173	<1	-
Cladosporium	31	6603	19	1/2	54	11502	31	-
Colorless	3	20	<1	1/1	3	20	<1	-
Curvularia	3	20	<1	2/1	2	13	<1	-
Drechslera/Bipolaris group	1	7	<1	1/3	3	20	<1	-
Epicoccum	25	167	<1	2/1	12	80	<1	-
Fusicladium	2	13	<1	2/1	1	7	<1	-
hyphal elements	69	460	1	1/1	49	327	1	-
Oidium	4	27	<1	-	-	-	-	-
Penicillium/Aspergillus group	17	113	<1	1/5	83	553	1	-
Pithomyces	7	47	<1	1/1	8	53	<1	-
Polythrincium	1	7	<1	1/1	1	7	<1	-
Pyricularia	1	7	<1	1/6	6	40	<1	-
Rusts	12	80	<1	6/1	2	13	<1	-
Smuts,Periconia,Myxomycetes	19	127	<1	2/1	8	53	<1	-
Spegazzinia	1	7	<1	1/1	1	7	<1	-
Torula	9	60	<1	2/1	5	33	<1	-
Unknown	-	-	-	-	2	13	<1	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **7** spr/m³				Analytical Sensitivity: **7** spr/m³			
Comments	Large amount of particulate and fibers seen.				Large amount of particulate and fibers seen.			
Total *See Footnotes	365	34001	~100%	1/1	398	37316	~100%	-

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Certificate of Analysis
EMLAP# 102977

Aria Environmental
P.O. Box 286
Woodbine, Maryland 21797
Attn: Julie Barth
Project: **GMS Allergenco D**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 08/25/2015
Date Received: 08/26/2015
Date Analyzed: 08/26/2015
Date Reported: 08/26/2015
Project ID: 15019650

Footnotes and Additional Report Information

Debris Rating Table

1	Minimal (<5%) particular 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 Smut, Periconia, Myxomycete group is composed of three different groups whose spores have similar morphologies. Smuts are plant pathogens, Periconia is a relatively uncommon mold indoors, and Myxomycetes are not fungi but slime molds. Although these organisms do not typically proliferate indoors, their spores are potentially allergenic.

5. 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.

6. 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.

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

8. 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.

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

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 considered (3) three. For example, a sample with a result of 55,443 spr/m3 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 spr/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

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Page 1 of 1

ELITE Program
AZ, CO, GA, VA, NJ

NVLAP
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)

Aerobiology Client	Aria Environmental				
Field Contact	Julie Barth	Collected By/Date: Julie Barth 8/25/15		Relinquished By/Date: 8/25/15	
Reporting Address	PO Box 286, Woodbine MD 21797	Relinquished By/Date:		Received By/Date: LMP 8/26/15	
Billing Address	Same	Sampler Type	Andersen___ SAS___	SampleAire___ AeroTrap___	Other X BioCulture___
Phone/Fax	410-549-5774	PO#/Job#: GMS		(Allergenco B)	
Reporting Email (s)	jbarth@ariaenviro.com	Project Name:			
Routine ● 24 Hour ○ Same Day ● 4 Hour ○ 2 Hour ○		5 Day (Asbestos Only)	Notes:		
SAMPLING LOCATION ZIP CODE	21738	CC Info:			

	Sample No.	Test Code	Sample Location	Total Volume/Area
1	GM 01	1054	CR 01	150 L
2	02	↓	CR 02	↓
3	10		CR 10	
4	13		CR 13	
5	21		CR 21	
6	22		CR 22	
7	24		CR 24	
8	28		CR 28	
9	31		CR 31	
10	35		CR 35	
11	37		CR 37	
12	38		CR 38	
13	out 1		Outside	
14	out 2	↓	outside in CY	↓

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

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