AMBIENT AIR TESTING FOR MOLD SPORES

APEX CENTER

290 READY MIX ROAD
WYTHEVILLE, VIRGINIA 24382

ECS PROJECT NO. 47:9775

FOR: WYTHE COUNTY

APRIL 22, 2020

April 22, 2020

Mr. Stephen Bear
Wythe County
340 South Sixth Street
Wytheville, Virginia 24382

ECS Project No. 47:9775

Reference: Ambient Air Testing for Mold Spores, APEX Center, 290 Ready Mix Road, Wytheville, Virginia

Dear Mr. Bear:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Wythe County with the results of the above referenced testing performed at the APEX Center located at 290 Ready Mix Road in Wytheville, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:14003-P and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Wythe County with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Alexandra Moon
Senior Project Manager
amoon@ecslimited.com
540-362-2000

Christopher J. Chapman, CIH
Director of Industrial Hygiene
cchapman@ecslimited.com
804-353-6333

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1.0 SITE DESCRIPTION

The property consists of an enclosed 300 foot by 300 foot arena facility containing an earthen (soil) floor that is 150 feet by 300 feet in area. The earthen floor can be covered for events where a non-dirt floor is needed. Bathrooms, concessions areas, meeting rooms, and offices line the exterior walls of the building and are serviced by separate air handling units (AHUs). The main arena is not cooled and is heated with large infrared heaters. During events, as needed, large built in ventilation fans and roll up garage doors are used to ventilate the space and generally exhaust air out of the arena facility (which allows make-up air to move into the arena and thus provide air circulation).

2.0 PURPOSE

A referral was received by the Virginia Occupational Safety and Health (VOSH) from the Virginia Department of Health (VDH). Several complaints have been received from workers who were contracted to build the APEX Center. It was reported that four workers have developed severe mobility issues. The workers stated that working at the APEX site exposed the workers to mold which they claimed caused their reported health concerns, including fungal growth within their lungs. ECS has been requested to conduct air testing to determine ambient spore count levels in the arena as a measure of potential ambient exposure to mold spores to visitors and staff of the APEX Center.

3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal and standard industry practice. Two sampling events were conducted at the site on February 25, 2020 and March 30, 2020. During both of the site visits, the roll-up doors and ventilation fans were not in use. Prior to the first sampling event, the arena was being prepared for an event for the upcoming weekend and active earth disturbance work had occurred during the two days prior to our sampling event. This potentially threw up dust which appeared to have significantly interfered with the data analysis.

For the second sampling event, the facility was shut down and major earth disturbance did not occur prior to performing the sampling. However it was reported that on the preceding Wednesday equipment was driven across the earthen floor and that the large roll up doors were open on the preceding Friday. The arena was allowed to sit over the weekend in order to allow or the dust to settle out. The sampling event was completed on a Monday morning prior to further disturbance of the floor in the building.

Mold and Moisture

For air sample collection, a high volume sampling pump and air-o-cell (AOC) cassettes were utilized in sampling for airborne fungal spores, hyphal fragments, insect fragments, and pollen. Samples were collected with an air flow of 15 liters/minute verified by a pre-calibrated rotameter for 10 minutes.

The intent of this air testing is to profile the air in select locations within the building in regards to fungal spore activity. Elevation of airborne fungal spore counts within the structure can be used as an indicator of the possible presence of mold growth generated by sources of moisture within a building. However lack of elevations in spore count levels does not necessarily indicate that moisture intrusion concerns do not exist.

Samples collected were transported/shipped to Environmental Hazard Services, LLC (EHS) located in Richmond, Virginia for analysis. EHS is an AIHA (American Industrial Hygiene Association) EMLAP (Environmental Microbiology Laboratory Accreditation Program) accredited laboratory. The samples were analyzed for total spore concentrations in accordance to the laboratory's quantification methods. The analytical results and chain of custody are attached.

4.0 RESULTS

4.1 Spore-Trap Air Samples

Below is a summary of the sampling data collected as part of this evaluation.

4.1.1 February 25, 2020

Fungal spore-trap air samples were collected from nine locations across the facility, including on the arena floor, around the perimeter of the arena, and in one of the offices. Four representative exterior samples were collected for comparison. The sample location diagram is located in the appendix. The following table summarizes the results of sample analysis reported in spore counts per cubic meter of air.

Spore-Trap Sample Results

Sample Number	Sample Location	Total Fungal Spore Concentration (count/cubic meter)
AS-1	Outside - Southeast Side	27 (Slide damaged in transit)
AS-2	Inside 1 - Bleachers - Northside	13
AS-3	Inside 2 - Arena Floor - East Side	230* (Slide damaged in transit)
AS-4	Inside 3 - Walkway/Concourse - Northside	Overloaded
AS-5	Outside 2- Northeast Side	60
AS-6	Inside 4 - Arena Floor - North Central	230*
AS-7	Inside 5 - Arena Floor - South Central	Overloaded

Sample Number	Sample Location	Total Fungal Spore Concentration (count/cubic meter)
AS-8	Inside 6 - Arena Floor - West Side	250*
AS-9	Outside 3 - Northwest Side	27
AS-10	Inside 7 - Walkway/Concourse - Southside	Overloaded
AS-11	Inside 8 - Bleachers - Southside	390*
AS-12	Inside 9 - Director's Office	Overloaded
AS-13	Outside 4 - Southwest Side	13
*** Substantial Amounts of particulate observed, counts may be underestimated Overloaded = Counts not available due to excessive particulates.**		
The weather at the time of the sampling was approximately 45 degrees Fahrenheit; wind speeds ranging between 0 and 5 mph.		

Due to excessive particulates, the many of the slides were overloaded and not readable or the spores numbers were estimated due to the excessive amount of particulate matter. Two of the slides were also damaged in transit. Based on these reasons, ECS recommended conducting a second round of sampling during a time when the arena is not is use to allow for the dust and dirt particles to settle out of the air.

4.1.2 March 30, 2020

The sampling conducted on the March 30, 2020 was an almost duplicate of the February sampling; however, samples AS-3 and AS-4 were inadvertently switched in sampling order and location.

Spore-Trap Sample Results

Sample Number	Sample Location	Total Fungal Spore Concentration (count/cubic meter)
AS-1	Outside - Southeast Side	330
AS-2	Inside 1 - Bleachers - Northside	1,100
AS-3	Inside 2 - Walkway/Concourse - Northside	1,000*
AS-4	Inside 3 - Arena Floor - East Side	210
AS-5	Outside 2- Northeast Side	580

Sample Number	Sample Location	Total Fungal Spore Concentration (count/cubic meter)
AS-6	Inside 4 - Arena Floor - North Central	870
AS-7	Inside 5 - Arena Floor - South Central	1,400
AS-8	Inside 6 - Arena Floor - West Side	420
AS-9	Outside 3 - Northwest Side	320
AS-10	Inside 7 - Walkway/Concourse - Southside	790
AS-11	Inside 8 - Bleachers - Southside	2,600
AS-12	Inside 9 - Director's Office	770
AS-13	Outside 4 - Southwest Side	430
*** Substantial Amounts of particulate observed, counts may be underestimated**		
The weather at the time of the sampling was approximately 57 to 63 degrees Fahrenheit; wind speeds ranging between 6 and 15 mph and gusts up to 28 mph.		

There are currently no accepted regulatory standards or guidelines with respect to acceptable fungal levels inside buildings. It is important to note however that spore trap measurements can fluctuate rapidly and the readings reported should not be used as a definitive indication that mold and or health hazards related to mold are present or absent.

Based on analysis of the samples, many still reported substantial amounts of particulates; however, the lab was able to read the slides and provide accurate results, with the exception of sample AS-3 (Inside 2 Walkways Concourse Northside) which was estimated due to the high amount of particulate observed. Generally the inside samples were higher then the outside samples. Specifically, *Cladosporium* spores and *Penicillium/Aspergillus* group spores were elevated above the outside levels.

5.0 RECOMMENDATIONS AND REGULATORY REQUIREMENTS

Based on our understanding of the purpose of this testing event, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

While elevated mold spores were detected in the air samples collected, as compared to outdoors, the type of spores reported are commonly found in soils. Additionally, elevated dust and dirt were observed on the samples collected, even after the site was allowed to sit undisturbed for several days for the second sample event. The data would appear to point towards the fact that due to the large surface area of soil located within the building 1) excessive amounts of dust are going to be normally present in the air since the facility has an open dirt floor and 2) with the elevations in dust from the soil, mold spores (which are normally present in soil naturally) will also be lofted into the

air with the soil dust. This would appear to be a normal condition within this facility. It is important to note as it relates to potential for mold impact or mold exposure from the facility, ECS did not observe indications of excess moisture impacting the facility (as would be evidenced by signs of liquid moisture on the floor or impacting the structure) or actual visible mold growth on the structure or on the soil.

Both the elevated, common molds and the elevated dust point to the need for general ventilation of the building when occupied. It was reported that during events at the facility, ventilation is used and the roll up doors as well as the large fans circulate and exchange the air within the facility. Review of the ventilation procedures for non-event times, as well as a review of the HVAC systems serving the offices, meeting rooms, and concessions area should be reviewed to confirm general filtration and fresh air exchanges are adequate for normal daily operations and during off-event times for personnel in these areas.

Additionally, dust control methods should be used on the soil floor. The methods may include the placement of a dust control or dust suppressant; however, care should be taken as to not saturate the floor if water is involved, as water may promote mold growth.

Because of the nature of this environment, mold spores are expected to be present. It is important to note that the reported mold levels are only reflective of conditions at the time of this test and that mold populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity).

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

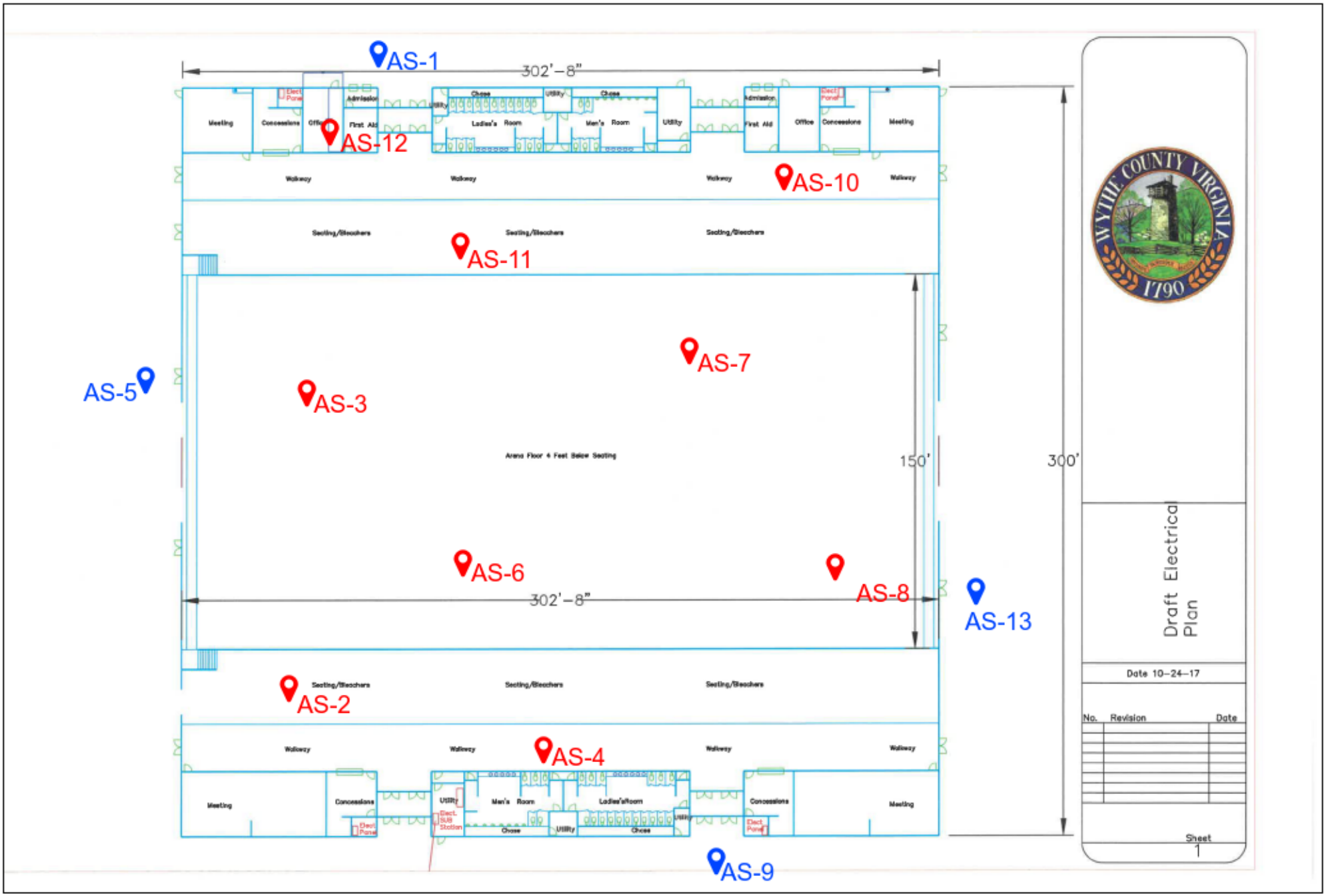
The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS 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. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

This survey is not intended to represent an exhaustive research of every potential hazard or condition that may exist, nor does it claim to represent indoor conditions or events that arise after the survey. This report has been prepared in accordance with generally accepted environmental practices. Our

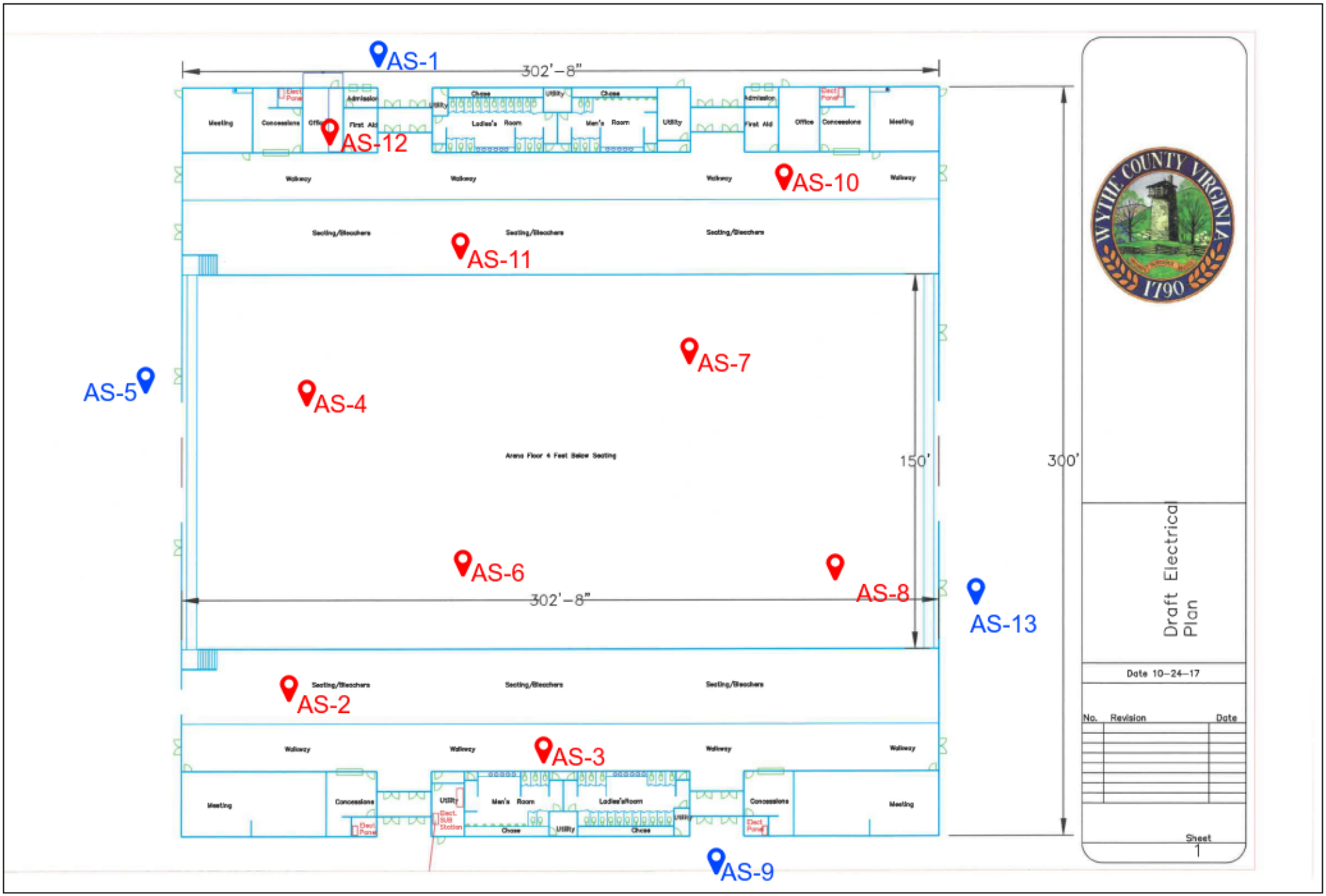
conclusions and findings are based, in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided by others. The scope of services performed was limited to those requested by the Client and does not constitute a full microbial assessment of the site or a comprehensive moisture survey of the site. The data provided in this study is only indicative of conditions sampled at the immediate time of the study. The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against extant, or future, conditions of a type or at a location not investigated. The reported microbial levels are only reflective of conditions at the time of this test and that microbial populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given.

Appendix I: Drawings



Sample Location Sketch - Round 1

APEX Center
290 Ready Mix Road
Wytheville, Virginia 24382
ECS Project No. 47:9775



Sample Location Sketch - Round 2

APEX Center
290 Ready Mix Road
Wytheville, Virginia 24382
ECS Project No. 47:9775

Appendix II: Laboratory Report(s)

Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Report Number: 20-02-03697

Received Date: 02/26/2020
Analyzed Date: 03/02/2020
Reported Date: 03/02/2020

Client: ECS Mid-Atlantic - Roanoke
7670 Enon Drive
Suite 101
Roanoke, VA 24019

Project/Test Address: 47:9775; 200 Apex Drive; Wytheville, VA 24382

Client Number:
200608

Fax Number:

Laboratory Results

Lab # :	20-02-03697-001		20-02-03697-002		20-02-03697-003		20-02-03697-004		20-02-03697-005	
Client Sample ID :	AS-1		AS-2		AS-3		AS-4		AS-5	
Date Collected :	2/25/2020		2/25/2020		2/25/2020		2/25/2020		2/25/2020	
Collection Location :	OUTSIDE 1 (SOUTH)		INSIDE 1		INSIDE 2		INSIDE 3		OUTSIDE 2	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7		6.7	
Volume (L) :	150		150		150		150		150	
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	3	20	1	6.7	19	130			7	47
Penicillium/Aspergillus group spores			1	6.7	15	100				
Epicoccum spores	1	6.7							1	6.7
smuts, Periconia, myxomycetes					1	6.7				
Bispora spores									1	6.7
No relevant fungal spores observed								See Notes		
TOTAL SPORES(Spores/m3)		27		13		230				60
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	

Notes (Sample 004): No relevant fungal spores observed

Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Report Number: 20-02-03697

Received Date: 02/26/2020
Analyzed Date: 03/02/2020
Reported Date: 03/02/2020

Client: ECS Mid-Atlantic - Roanoke
7670 Enon Drive
Suite 101
Roanoke, VA 24019

Project/Test Address: 47:9775; 200 Apex Drive; Wytheville, VA 24382

Client Number:
200608

Fax Number:

Laboratory Results

Lab # :	20-02-03697-006		20-02-03697-007		20-02-03697-008		20-02-03697-009		20-02-03697-010	
Client Sample ID :	AS-6		AS-7		AS-8		AS-9		AS-10	
Date Collected :	2/25/2020		2/25/2020		2/25/2020		2/25/2020		2/25/2020	
Collection Location :	INSIDE 4		INSIDE 5		INSIDE 6		OUTSIDE 3		INSIDE 7	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7		6.7	
Volume (L) :	150		150		150		150		150	
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	9	60			14	93	1	6.7		
Penicillium/Aspergillus group spores	24	160			12	80	2	13		
Aureobasidium spores	1	6.7								
Stachybotrys spores					2	13				
Chaetomium spores					3	20				
Epicoccum spores					1	6.7				
smuts, Periconia, myxomycetes					4	27	1	6.7		
Bispora spores					1	6.7				
No data available				M04						M04
TOTAL SPORES(Spores/m3)		230				250		27		
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	

Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Report Number: 20-02-03697

Received Date: 02/26/2020
Analyzed Date: 03/02/2020
Reported Date: 03/02/2020

Client: ECS Mid-Atlantic - Roanoke
7670 Enon Drive
Suite 101
Roanoke, VA 24019

Project/Test Address: 47:9775; 200 Apex Drive; Wytheville, VA 24382

Client Number:
200608

Fax Number:

Laboratory Results

Lab # :	20-02-03697-011		20-02-03697-012		20-02-03697-013					
Client Sample ID :	AS-11		AS-12		AS-13					
Date Collected :	2/25/2020		2/25/2020		2/25/2020					
Collection Location :	INSIDE 8		INSIDE 9		OUTSIDE 4					
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell					
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7					
Volume (L) :	150		150		150					
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	6	40			1	6.7				
Penicillium/Aspergillus group spores	45	300			1	6.7				
Curvularia spores	1	6.7								
Stachybotrys spores	1	6.7								
Chaetomium spores	2	13								
Epicoccum spores	1	6.7								
Spegazzinia spores	1	6.7								
smuts, Periconia, myxomycetes	2	13								
No data available				M04						
TOTAL SPORES(Spores/m3)		390				13				
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler					

Environmental Hazards Services, L.L.C

Client Number: 200608 Report Number: 20-02-03697

Project/Test Address: 47:9775; 200 Apex Drive; Wytheville, VA 24382

Sample Narratives:

(Sample 001)	M05:	Slide damaged in transit.
(Sample 003)	M03:	Substantial amount of particulate observed, counts may be underestimated.
(Sample 003)	M05:	Slide damaged in transit.
(Sample 006)	M03:	Substantial amount of particulate observed, counts may be underestimated.
(Sample 007)	M04:	Counts not available due to excessive particulate.
(Sample 008)	M03:	Substantial amount of particulate observed, counts may be underestimated.
(Sample 010)	M04:	Counts not available due to excessive particulate.
(Sample 011)	M03:	Substantial amount of particulate observed, counts may be underestimated.
(Sample 012)	M04:	Counts not available due to excessive particulate.

Method: Non-Culturable Spore Trap Examination

Reviewed By Authorized Signatory: Tasha Eaddy

Tasha Eaddy
QA/QC Clerk

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Sample location, description, volume, etc., was provided by the client. The Client is hereby notified that due to the subjective nature of fungal analysis and the growth process of fungal infestation, laboratory samples can and do change over time relative to the originally sampled material. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C.

ENVIRONMENTAL HAZARDS SERVICES, LLC

Mold Chain of Custody Form

Company Name	ECS Mid-Atlantic, LLC	Account #	200608
Company Address	7670 Enon Dr., Suite 101	City/State/Zip	Roanoke, VA 24019
Phone	540-362-2000	Email	amoon@ecslimited.com
Project Name / Testing Address	200 Apex Drive, Wytheville, VA 24382		
PO Number	47:9775	Collected By	A. Moon
Collection Date & Time	2/25/2020/10-12	Outside Air Temp	Indoor Air Temp 57

Was there any precipitation (rain, sleet or snow) 2 hours of less before taking the samples? ☐ Yes ☒ No

Turn-Around Time: ☒ 3 DAY ○ 2 DAY ○ 1 DAY ○ SAME DAY OR WEEKEND - Must Call Ahead

SAMPLE TYPE CODES

AIR/ NON VIABLE		SPORE TRAP		SWAB SAMPLE SURFACE	
Bulk	B	Air-O-Cell	AOC	Non Porous	NP
Swab	S	Cyclex D	C	Semi Porous	SP
Bio-Tape	T	BioSiS	B	Porous	P
Wall Check	W	Micro 5	M5		

LAB NUMBER	Client Sample ID	Collection Location	Sample Type	Air Samples: Spore Trap Type	Air Samples: Air Volume (Total Liter)	Swab Samples: Surface Type (NP/SP)	Swab Samples: Area of Mold (Square feet)	Qualitative Particulate Analysis (Additional $10.00 per sample)	Comments
1	AS-1	outside 1 (south)		AOC	150				Samples were damaged in transit can view 80-90% of the trace. Customer notified at 2/27/2020 notified by Tiffany via email. -A.S. 2/27/2020
2	AS-2	Inside 1		AOC	150				
3	AS-3	Inside 2		AOC	150				
4	AS-4	Inside 3		AOC	150				
5	AS-5	outside 2		AOC	150				
6	AS-6	Inside 4		AOC	150				
7	AS-7	Inside 5		AOC	150				
8	AS-8	Inside 6		AOC	150				
9	AS-9	outside 3		AOC	150				
10	AS-10	Inside 7		AOC	150				
11	AS-11	Inside 8		AOC	150				
12	AS-12	Inside 9		AOC	150				
13	AS-13	outside 4		AOC	150				

Released By: Alexandra Moon Date: 2/25/2020 Time: 415pm

Signature: Alexandra Moon

LAB USE ONLY – BELOW THIS LINE

Received By: TStone

Signature: TStone

Date: 2/26/20 Time: 12:17 ☐ AM ☒ PM

☐ Portal Contact Added

20-02-03697

Due Date: 03/02/2020 (Monday) ER

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Report Number: 20-03-04022

Received Date: 03/31/2020
Analyzed Date: 04/01/2020, 04/02/2020
Reported Date: 04/02/2020

Client: ECS Mid-Atlantic - Roanoke
7670 Enon Drive
Suite 101
Roanoke, VA 24019

Project/Test Address: Apex Center; Wytheville,VA

Client Number:
200608

Fax Number:

Laboratory Results

Lab # :	20-03-04022-001		20-03-04022-002		20-03-04022-003		20-03-04022-004		20-03-04022-005	
Client Sample ID :	AS-1		AS-2		AS-3		AS-4		AS-5	
Date Collected :	3/30/2020		3/30/2020		3/30/2020		3/30/2020		3/30/2020	
Collection Location :	OUTSIDE 1		INSIDE 1		INSIDE 2		INSIDE 3		OUTSIDE 2	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7		6.7	
Volume (L) :	150		150		150		150		150	
Spore ID	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**
Cladosporium spores	32	210	72	480	112	750	18	120	69	460
Penicillium/Aspergillus group spores	11	73	97	650	37	250	13	87	4	27
Alternaria spores					1	6.7			1	6.7
Aureobasidium spores	1	6.7			1	6.7				
Pithomyces spores			1	6.7						
Epicoccum spores	1	6.7								
Pestalotia spores	1	6.7							1	6.7
Cercospora spores	1	6.7								
smuts, Periconia, myxomycetes	2	13							9	60
Bispora spores									3	20
TOTAL SPORES(Spores/m3)		**330**		**1100**		**1000**		**210**		**580**
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	

Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Report Number: 20-03-04022

Received Date: 03/31/2020
Analyzed Date: 04/01/2020, 04/02/2020
Reported Date: 04/02/2020

Client: ECS Mid-Atlantic - Roanoke
7670 Enon Drive
Suite 101
Roanoke, VA 24019

Project/Test Address: Apex Center; Wytheville,VA

Client Number:
200608

Fax Number:

Laboratory Results

Lab # :	20-03-04022-006		20-03-04022-007		20-03-04022-008		20-03-04022-009		20-03-04022-010	
Client Sample ID :	AS-6		AS-7		AS-8		AS-9		AS-10	
Date Collected :	3/30/2020		3/30/2020		3/30/2020		3/30/2020		3/30/2020	
Collection Location :	INSIDE 4		INSIDE 5		INSIDE 6		OUTSIDE 3		INSIDE 7	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7		6.7	
Volume (L) :	150		150		150		150		150	
Spore ID	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**
Cladosporium spores	15	100	79	530	32	210	41	270	52	350
Penicillium/Aspergillus group spores	115	770	120	800	28	190	2	13	59	390
Alternaria spores			1	6.7					1	6.7
Aureobasidium spores			1	6.7			2	13		
Curvularia spores									1	6.7
Pithomyces spores							1	6.7	1	6.7
Epicoccum spores			1	6.7					2	13
Pestalotia spores					1	6.7				
Cercospora spores			1	6.7						
smuts, Periconia, myxomycetes					2	13	2	13	3	20
TOTAL SPORES(Spores/m3)		**870**		**1400**		**420**		**320**		**790**
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	

Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237

Telephone: 800.347.4010

Report Number: 20-03-04022

Received Date: 03/31/2020
Analyzed Date: 04/01/2020, 04/02/2020
Reported Date: 04/02/2020

Client: ECS Mid-Atlantic - Roanoke
7670 Enon Drive
Suite 101
Roanoke, VA 24019

Project/Test Address: Apex Center; Wytheville,VA

Client Number:
200608

Fax Number:

Laboratory Results

Lab # :	20-03-04022-011		20-03-04022-012		20-03-04022-013					
Client Sample ID :	AS-11		AS-12		AS-13					
Date Collected :	3/30/2020		3/30/2020		3/30/2020					
Collection Location :	INSIDE 8		INSIDE 9		OUTSIDE 4					
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell					
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7					
Volume (L) :	150		150		150					
Spore ID	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**
Cladosporium spores	211	1400	41	270	52	350				
Penicillium/Aspergillus group spores	173	1200	73	490	7	47				
Alternaria spores			1	6.7						
Aureobasidium spores	2	13								
Cercospora spores					3	20				
Nigrospora spores					1	6.7				
smuts, Periconia, myxomycetes	3	20			1	6.7				
TOTAL SPORES(Spores/m3)		**2600**		**770**		**430**				
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler					

Sample Narratives:

(Sample 002)	M02:	Large amounts of particulate observed.
(Sample 003)	M03:	Substantial amount of particulate observed, counts may be underestimated.
(Sample 006)	M02:	Large amounts of particulate observed. Several Paecilomyces spores observed.
(Sample 007)	M02:	Large amounts of particulate and Several Paecilomyces spores observed.
(Sample 010)	M02:	Large amounts of particulate observed.
(Sample 011)	M02:	Large amounts of particulate observed.
(Sample 012)	M02:	Large amounts of particulate and Several Paecilomyces spores observed.

Environmental Hazards Services, L.L.C

Client Number: 200608 **Report Number:** 20-03-04022

Project/Test Address: Apex Center; Wytheville,VA

Method: Non-Culturable Spore Trap Examination

Reviewed By Authorized Signatory: Felicia Butler

Felicia Butler
Microbiology Lab Technical Manager

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Sample location, description, volume, etc., was provided by the client. The Client is hereby notified that due to the subjective nature of fungal analysis and the growth process of fungal infestation, laboratory samples can and do change over time relative to the originally sampled material. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C.

EHS Laboratories™
Environmental Hazards Services, LLC

Mold Chain-of-Custody Form

SHIP TO: 7469 Whitepine Rd. Richmond, VA 23237
Phone: (800) 347-4010 FAX: (804) 275-4907
ONLINE CLIENT PORTAL AVAILABLE FOR ANALYSIS RESULTS AT:
www.leadlab.com

20-03-04022

Due Date:
04/03/2020
(Friday)
ER

Company Name: ECS Mid-Atlantic, LLC Account Number:
Address: 7670 Enon Drive, Suite 101 City/State/Zip: Roanoke, Virginia 24019
Phone: 540-362-2000 Email: amoon@ecslimited.com Fax: 540-362-2303 P.O. #:
Testing Address: APEX Center City/State (Required): Wytheville, VA
Collection Date: 3/30/2020 Time Collected: 10-11 (AM) / PM Collected by: Alexandra Moon
Outside Air Temperature: _____ °F Indoor Air Temperature: _____ °F Was There any Precipitation (Rain, Sleet, or Snow) 2 Hours or Less Before Taking the Samples? ○ Yes ○ No

TURN AROUND TIME: IF NO TAT IS SPECIFIED, SAMPLE(S) WILL BE PROCESSES AND CHARGED AS 3 DAY TAT.

○	1 Day	○	2 Day	◉	3 Day
○	* Same Day – Must Call Ahead			*OPTIONAL: Remediation Specifications (Fee Required)*	
○	* Weekend – Must Call Ahead			*OPTIONAL: Clearance letter (Fee Required)*	

Sample Type Codes

Air/Non Viable	Spore Trap	Swab Sample Surface
Bulk = B	Air-O-Cell = AOC	Non-Porous = NP
Swab = S	Cyclex D = C	Semi-Porous = SP
WallCheck = W	BioSIS = B	Porous = P
Bio Tape = T	Micro5=M5	

No.	Sample Type	Collection Location	Air Samples		Swab Samples		Qualitative Particulate Analysis (Additional $10.00 per sample)	Comment
			Spore Trap Type	Air Volume (Total Liters)	Surface Type (NP/SP/P)	Area of Mold (In Square Feet - ft^2)		
1	Air	Outside 1	AOC	150				AS-1
2	↑	Inside 1	AOC	150				AS-2
3		Inside 2	AOC	150				AS-3
4		Inside 3	AOC	150				AS-4
5		Outside 2	AOC	150				AS-5
6		Inside 4	AOC	150				AS-6
7	↓	Inside 5	AOC	150				AS-7
8	Air	Inside 6	AOC	150				AS-8

Released by: Alexandra Moon Signature: Date/Time: 3/30/2020
Received by: Amy Vejnar Signature: Date/Time: 3/31/20 11:43AM

Mold Chain-of-Custody Form

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Environmental Hazards Services, LLC

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4022
~For Lab Use Only ~

Company Name: ECS Mid-Atlantic, LLC Account Number:
Address: 7670 Enon Drive, Suite 101 City/State/Zip: Roanoke, Virginia 24019
Phone: 540-362-2000 Email: amoon@ecslimited.com Fax: 540-362-2303 P.O. #:
Testing Address: APEX Center City/State (Required): Wytheville, VA
Collection Date: 3 / 30 / 2020 Time Collected: 10-11 AM / PM Collected by: Alexandra Moon
Outside Air Temperature: ____ °F Indoor Air Temperature: ____ °F Was There any Precipitation (Rain, Sleet, or Snow) 2 Hours or Less Before Taking the Samples? ○ Yes ○ No

TURN AROUND TIME: IF NO TAT IS SPECIFIED, SAMPLE(S) WILL BE PROCESSES AND CHARGED AS 3 DAY TAT.

○	1 Day	○	2 Day	◉	3 Day
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Bio Tape = T	Micro5=M5	

No.	Sample Type	Collection Location	Air Samples: Spore Trap Type	Air Samples: Air Volume (Total Liters)	Swab Samples: Surface Type (NP/SP/P)	Swab Samples: Area of Mold (In Square Feet - ft^2)	Qualitative Particulate Analysis (Additional $10.00 per sample)	Comment
1	Air	outside 3	AOC	150				AS-9
2	↑	Inside 7	AOC	150				AS-10
3	↓	Inside 8	AOC	150				AS-11
4		Inside 9	AOC	150				AS-12
5	Air	outside 4	AOC	150				AS-13
6								
7								
8								

Released by: Alexandra Moon Signature: Date/Time: 3/30/2020
Received by: Amy Vejnar Signature: Date/Time: 3/31/20 11:43AM

2 of 2