March 18, 2021

Mr. Alex Baylor via email: alex.baylor@pgcps.org
Environmental Specialist
Environmental Safety Office
Prince George's County Public Schools
Division of Supporting Services / Building Services
13306 Old Marlboro Pike
Upper Marlboro, MD 20772

RE: Indoor Air Quality (IAQ) and Mold Assessment Services
Prince George's County Public Schools – North Forestville Elementary School
2311 Ritchie Road #3735, Forestville, Maryland 20747
Contract No.: IFB 022-19: Indoor Air Quality Services at Various Locations
Tidewater Project No.: 5419-033

Dear Mr. Baylor:

Tidewater, Inc. (Tidewater) is pleased to present this report regarding the results of the Indoor Air Quality (IAQ) and Mold Assessment Services conducted by Tidewater at North Forestville Elementary School located at 2311 Ritchie Road #3735 in Forestville, Maryland. Tidewater's Project Manager and Certified Industrial Hygienist, Mr. Skanda Abeyesekere CIH, CSP, CHMM conducted these services on December 1, 2020. Re-sampling of areas with elevated mold concentrations were conducted on March 2, 2021.

The scope of work for the IAQ assessment and mold survey included:

- Inspecting, taking direct read measurements and conducting air sampling at the following select areas of the school: Principal's Office, Classroom 200, Classroom 205 (Computer Room), Multipurpose Room, Media Center (211), Classroom 103, Classroom 106, Classroom 112, Classroom 116 and Classroom 110. These areas were inspected for evidence of potential indoor air quality problems (including suspect microbial growth, water damage, chemical use/ storage, drain traps, sources of allergens/ contaminants, etc.) that may contribute to indoor air quality problems;
- Taking direct read air measurements for comfort parameters including temperature (T), relative humidity (RH), carbon dioxide (CO_2), and carbon monoxide (CO) for comparison with standards established by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 62.1–2019, *Ventilation for Acceptable Indoor Air Quality*, and The United States Environmental Protection Agency (US EPA) National Ambient Air Quality Standards (NAAQS);
- Taking direct read measurements for Particulate Matter less than 10 microns (PM10) for comparison with standards established by the US EPA NAAQS Final Action (December 7, 2020); and
- Conducting air sampling for microbial spores for total airborne fungal spore analysis.

Visual Observation

The school building was occupied by a limited number of staff and no students were present at the time of the survey because of the on-going COVID-19 pandemic. The majority of the classrooms and other common areas inspected were vacant. The results of Tidewater's visual inspection are presented below:

Principal's Office

No signs of ongoing water-intrusion problems were observed in the Principal's office. Furthermore, no odors were detected. One (1) wall-mounted fan coil unit was operating and was emitting warm air at the time of the inspection. The office appeared to be clean and well maintained. Housekeeping appeared to be satisfactory.

Classroom 200

No signs of ongoing water-intrusion problems were observed in the classroom and no odors were detected. The return air and supply grills located on the walls of the classroom appeared to be clean. A return air grill located on the ceiling was missing.

Classroom 205

No signs of ongoing water-intrusion problems or mold growth were observed in classroom 205. Furthermore, no odors were detected. A wall-mounted fan coil unit and a window-mounted air conditioning unit were observed in Classroom 205. None of these units were operating at the time of the inspection. Two (2) ceiling tiles in the classroom appeared to be dislodged from the respective ceiling grids.

Multipurpose Room

The multipurpose room was equipped with three (3) window-mounted air conditioning units which were not operating at the time of the inspection. No signs of mold growth were observed in the multipurpose room and no notable odors were detected. However, numerous dislodged ceiling tiles and one (1) water-stained ceiling tile were observed in the multipurpose room. The wall-mounted supply air grills appeared to have dust accumulations.

Classroom 211 (Media Center)

Two (2) wall-mounted fan coil units and two (2) window-mounted air conditioning units were observed in the Media Center. The wall-mounted fan coil units were operating at the time of the inspection and were emitting warm air. The media center was unusually hot at the time of the inspection. No mold growth nor notable odors were detected in the Media Center. Housekeeping appeared to be satisfactory.

Classroom 103

No signs of ongoing water-intrusion problems were observed in classroom 103. Furthermore, no odors were detected. One (1) wall-mounted fan coil unit and one (1) window-mounted air conditioning unit were observed in the classroom. None of these units were operating at the time of the inspection. The return air and supply grills located on the ceiling of the classroom appeared to be clean. The classroom appeared to be clean and well maintained. Housekeeping appeared to be satisfactory.

Classroom 106

Several ceiling tiles with heavy water stains and visible mold growth were observed above the center column in the rear of Classroom 106. No notable odors were detected. Three (3) window-mounted air conditioning units were observed. These units were not operating at the time of the inspection.

Classroom 112

Numerous ceiling tiles with visible water stains were observed in the classroom. No visible mold formations were observed. Furthermore, no notable odors were detected. The ceiling-mounted supply and return grills appeared to have dust accumulations. The classroom appeared to be clean and well maintained.

Classroom 116

No signs of past or ongoing water-intrusion problems were observed. Furthermore, no visible mold growth or notable odors were detected. There were no wall-mounted fan coil units or window-mounted air conditioning in the classroom. The ceiling-mounted air supply grills appeared to have dust accumulations. Housekeeping appeared to be satisfactory.

Classroom 110

No signs of ongoing water-intrusion problems were observed in Classroom 110. A wall-mounted fan coil unit and a window-mounted air conditioning unit were observed. These units were not operating at the time of the inspection. The front panel of the wall-mounted fan coil unit had been removed for maintenance.

Comfort Parameter Air Testing

During the IAQ assessment, Tidewater obtained temperature (T), relative humidity (RH), carbon dioxide (CO_2), and carbon monoxide (CO) measurements within select locations using a TSI VelociCalc Indoor Air Quality instrument (Model Number 9565-X, Serial Number 9565X 1945 002, Calibration Date: November 8, 2019.) Measurements were taken after allowing the instrument to become acclimated to the ambient temperature and relative humidity for approximately five (5) minutes. Measurements were taken over a 5-minute time period at each designated location and the average concentration was recorded. Samples were obtained for comparison with standards established by the American Society for Heating Refrigeration and Air Conditioning (ASHRAE) Standard 62.1 – 2019, *Ventilation for Acceptable Indoor Air Quality*. Tidewater also obtained an "outdoor background" measurement in front of the main entrance of the school building for comparison to the interior readings. The results of the IAQ comfort parameter monitoring are provided in Table 1, in **Attachment A.**

According to the American Society for Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 62.1 – 2019, *Ventilation for Acceptable Indoor Air Quality,* the temperature range in summer months should be maintained between 73.0°F and 79.0°F for maximum occupant comfort. The ASHRAE standard for temperature for winter months is between 68.0°F and 74.5°F. The indoor temperature levels within the assessed areas on December 1, 2020 ranged between 68.9°F and 84.9°F. The background temperature outside the building was 50.6°F. The temperature levels recorded within most areas monitored were within the temperature levels typically observed during the fall-winter transitional period. The temperature levels in Classroom 200 and Classroom 205 were marginally above the upper temperature

standard of 74.5°F recommended by ASHRAE for winter months. The temperature level in Classroom 211 (Media Center) was 84.9°F, and was significantly higher than the upper temperature standard of 74.5°F recommended by ASHRAE for winter months. Most areas inspected were vacant at the time of the inspection. Indoor temperature levels fluctuate with the number of occupants present within the work area.

Per the same ASHRAE standard, a maximum relative humidity level of 65.0% or below is recommended to reduce the likelihood of condensation on cold surfaces. Relative humidity levels within the assessed areas on December 1, 2020 ranged between 27.5% and 47.3%. The background relative humidity level outside the building was 34.6%. The relative humidity levels in all areas assessed were below the ASHRAE recommended maximum relative humidity standard of 65.0%.

ASHRAE Standard 62.1 – 2019 recommends that indoor CO_2 levels not exceed 700 ppm above the outdoor background CO_2 level. The CO_2 levels in the assessed areas on December 1, 2020 ranged between 426 ppm to 514 ppm. The background CO_2 level outside the building was 410 ppm. The CO_2 levels within all interior locations assessed did not exceed 700 ppm above the outdoor background CO_2 level of 410 ppm.

The CO levels in all areas assessed on December 1, 2020 were below the maximum standard of 9.0 ppm recommended by the Indoor Air Quality Association (IAQA) for CO in occupied indoor environments.

Particulate Matter Less Than 10 microns (PM10)

During the assessment, Tidewater obtained particulate matter less than 10 microns (PM10) dust particulate measurements at select locations using a TSI® DUST TRAK II™ Aerosol Monitor (Model 8534, Serial Number 8534170101.) Measurements were taken after allowing the device to become acclimated to the ambient temperature and relative humidity for five (5) minutes. Measurements were taken over a 5-minute time period at each sampling location and the average concentration was recorded for comparison with standards established by the US EPA NAAQS Final Action (December 7, 2020.)

Tidewater also obtained an outdoor background sample in front of the main entrance of the school building for comparison to the interior readings.

The results of the particulate matter sampling are provided in Table 2, in **Attachment A**.

Based on the EPA NAAQS for Particulate Matter, Final Action (December 7, 2020), the 24-hour primary and secondary exposure standard for particulate matter less than 10 microns (PM10) is 150.0 micrograms per cubic meter of air (µg/m^3) or 0.150 milligrams per cubic meter of air (mg/m^3.)

The results of the PM10 analysis indicate that the average PM10 dust concentrations in all assessed areas ranged between 0.065 mg/m^3 and 0.076 mg/m^3. The average PM10 dust concentration in the background sample obtained in front of the main entrance was 0.074 mg/m^3.

The PM10 concentrations in all areas assessed were below the EPA 24-hour primary and secondary NAAQS of 0.150 mg/m^3.

Spore Trap Bioaerosol Sampling

Tidewater collected spore trap air samples from the same locations where the comfort parameters were recorded. Tidewater obtained the spore trap samples using Allergenco-D cassettes affixed to a Buck BioAire™ Bioaerosol Sampling Pump (Pump Model Number B520 and Serial Number B153043) calibrated to a flow rate of 15.0 Liters per minute. Each sample was run for a period of five (5) minutes to collect a total sample volume of 75.0 liters of air. Tidewater also obtained an outdoor background sample in front of the main entrance of the school building for comparison to the interior readings.

Once collected, the samples were transported to EMSL Analytical Laboratory (EMSL) located in Beltsville, Maryland for analysis via a standard turn-around time. The samples were transported following rigorous chain-of-custody guidelines to ensure proper handling and delivery of the samples. EMSL is accredited in the American Industrial Hygiene Association (AIHA) Environmental Microbiology Laboratory Accreditation Program (EMLAP) and is a successful participant in AIHA's Environmental Microbiology Proficiency Analytical Testing (EMPAT) program (Laboratory Number 102891.) The samples were analyzed via light microscopy at the standardized magnification of 600X. This technique does not allow for the differentiation between *Aspergillus* and *Penicillium* spores because they are morphologically identical. Additionally, the technique does not allow for cultivation, or the identification of spores to the species level, except in a few cases.

There are no universally accepted federal or State of Maryland standards for acceptable airborne concentrations of bioaerosols in an indoor occupational environment. In general, indoor airborne concentrations should be less than that found in the outdoor air, with similar species composition. Indoor spore counts significantly greater than those outdoors, or the presence of large numbers of different types of spores indoors that are not found outdoors, may indicate contamination and potential indoor air quality problems.

The total mold spore counts in all assessed areas of the school ranged between 490 spores/m^3 and 7,330 spores/m^3. The total mold spore concentrations in the background sample obtained outdoors was 3,240 spores/m^3. The total mold spore concentrations in the samples obtained from the principal's Office (sample # NFES-1), Classroom 205 (sample # NFES-3), Classroom 103 (sample # NFES-6) and Classroom 106 (sample # NFES-7) were (1.2 X – 2.3 X) higher than the total mold spore concentration obtained in the background sample (sample # NFES-BG.) The significantly higher concentrations of total mold spores detected in these samples may indicate the presence of a potential indoor source(s) of mold in the principal' office, Classroom 205, Classroom 103 and Classroom 106.

The concentration *Aspergillus/ Penicillium* spores detected in Classroom 103 (sample # NFES-6) and Classroom 106 (sample # NFES-7) were also significantly higher than the concentration of A*spergillus/ Penicillium* spores detected in the background sample (NFES-BG.)

A*spergillus/ Penicillium* are the most common mold species that are detected in indoor air samples. Most of the hundreds of sub-species are allergenic with only a few that are toxic. This group of species will grow with only the humidity in the air as its water source.

Visible mold growth were observed above the center column in the rear of Classroom 106. Although visible suspect surface mold formations were not observed in the principal's office,

Classroom 205, and Classroom 103, surface mold may be present above the drop ceilings or in the duct systems in these areas.

The area with elevated mold spores were re-sampled on March 2, 2021 following cleanup activities. The results indicated that the total mold spore concentrations in the interior locations have decreased significantly after cleanup activities. The results did not indicate elevated levels of airborne total fungal spores in the interior locations sampled.

The summary of the results for the spore trap sampling are provided in Table 3 in **Attachment A**. The laboratory analytical results, including speciation and chain of custody forms for the spore trap samples are included in **Attachment B**.

CONCLUSIONS

- The following issues were identified during the visual inspections:
  - Classroom 200: One (1) ceiling grill was missing.
  - Classroom 205: Two (2) ceiling tiles were dislodged from their respective ceiling grids.
  - Multipurpose Room: Multiple ceiling tiles were dislodged from their ceiling grids. One (1) water-stained ceiling tile was also observed. Wall-mounted air supply grills had dust accumulations.
  - Classroom 106: Multiple ceiling tiles with heavy water stains and visible mold growth were observed above the center column in the rear of the Classroom.
  - Classroom 112: Numerous ceiling tiles with visible water stains were observed. Ceiling-mounted supply and return air grills had dust accumulations.
  - Classroom 116: Ceiling-mounted supply and return air grills had dust accumulations.
  - Classroom 110: The front panel of the wall-mounted fan coil unit had been removed.
- The temperature levels in Classroom 200 and Classroom 205 were marginally above the upper temperature standard of 74.5°F recommended by ASHRAE for winter months. The temperature level in Classroom 211 (Media Center) was 84.9°F, and was significantly higher than the ASHARE upper temperature standard for winter months.
- The Relative humidity, CO_2, CO readings and particulate matter less than 10 microns (PM10) recorded within the assessed areas were within industry standards and guidelines;
- The total mold spore concentrations in interior locations with elevated mold concentrations have decreases significantly after cleanup activities. The results do not indicate elevated levels of airborne total fungal spores in the interior locations sampled.

RECOMMENDATIONS

Based on the results of our visual inspection, Tidewater proposes the following:

- Replace the missing ceiling grill in Classroom 200.
- Adjust all dislodged ceiling tiles in Classroom 205 and multi-purpose room to ensure that they are fitted snugly into the ceiling grids.

- Investigate the drop ceiling above the water-stained ceiling tiles in the multipurpose room, Classroom 106, and Classroom 112 for any ongoing water leaks. If any ongoing water leaks are detected, take immediate action to repair them. Remove the water-stained ceiling tiles in these areas and replace with new ceiling tiles.
- Appropriate steps should be taken to remediate the mold-impacted surfaces in Classroom 106 and sanitize the surrounding areas. Tidewater recommends hiring a 3rd party remediation company specializing in mold remediation to abate all mold-impacted and water damaged ceiling tiles and other affected building materials and clean the perimeters of the ceiling grids with a commercially available (EPA approved) fungicide to mitigate existing fungal spores prior to installing new ceiling tiles;
- Clean the wall-mounted air supply grills in the multi-purpose room, and the ceiling-mounted air supply and return air grills in Classroom 112 and Classroom 116 with a commercially available (EPA approved) disinfectant on a routine basis to remove dust deposits.
- Replace the missing front panel of the wall-mounted fan coil unit in Classroom 110 once all maintenance activities are complete;
- Adjust thermostat of the Heating Ventilation and Air Conditioning (HVAC) System supplying air to Classroom 211 (Media Center) to achieve a temperature level between 68.0°F and 74.5°F recommended for winter months per ASHRAE Standard 62.1 – 2019, *Ventilation for Acceptable Indoor Air Quality.*
- Ensure the Heating Ventilation and Air Conditioning (HVAC) System supplying air to all common areas and classrooms is properly balanced per design requirements and are turned on and are operating at all times to ensure adequate ventilation throughout the classrooms and common areas before the school re-opens.
- Maintain good housekeeping practices in all common areas and classrooms. All common area and classrooms floors should be broom cleaned at the end of each day once the school re-opens for students. Furthermore, all horizontal surfaces including desktops, furniture, window sills, and light fixtures should be cleaned on a routine basis to prevent the accumulation of dust.
- It is recommendation that Classroom 103 is thoroughly re-cleaned, and any sources of water leaks or condensation problems corrected.

Qualifications

Tidewater endeavored to investigate existing conditions in select areas of North Forestville Elementary School located at 2311 Ritchie Road #3735 in Forestville, Maryland as they pertain to indoor air quality and mold contamination. Our conclusions and recommendations are based on observations made on the day of our assessment, laboratory data from the time of the assessment, and information provided by both our Client and the area occupants. Actual conditions vary from day to day throughout the year.

Tidewater appreciates the opportunity to provide Industrial Hygiene consulting services for Prince Georges County Public Schools. Please contact us should any questions arise concerning this report or if we may be of further assistance.

Sincerely,

Tidewater, Inc.

Skanda Abeyesekere, MS, CIH, CSP, CHMM
Project Manager
SA/JNS

Jonathan N. Schatz, MS, CES, CEI
Manager, IH Services

Attachments: **Attachment A – Summary of Comfort Parameters, PM10 Particulate Dust, and Microbial Results**
Attachment B – Laboratory Reports and Chain of Custody Forms
Attachment C – Instrument Calibration Certificates
Attachment D – Relevant Certifications
Attachment E – Floor Plan with Sampling Locations

APPENDIX A

COMFORT PARAMETERS, PM10 PARTICULATE DUST, AND MICROBIAL RESULTS

Table 1: Indoor Air Quality Comfort Parameters North Forestville Elementary School				
Location	**Temperature (°F)**	**Carbon Dioxide (ppm)**	**Relative Humidity (%)**	**Carbon Monoxide (ppm)**
December 1, 2020				
Principal's Office	68.9	47.3	514	0.0
Classroom 200	**74.7**	37.9	433	0.0
Classroom 205 (Computer room)	**74.8**	28.9	436	0.0
Multi-purpose Room	73.1	35.3	445	0.0
Classroom 211 (Media Center)	**84.9**	31.7	442	0.0
Classroom 103	73.1	36.0	426	0.0
Classroom 106	71.1	27.5	432	0.0
Classroom 112	71.6	28.5	433	0.0
Classroom 116	69.7	29.0	438	0.0
Classroom 110	71.8	31.4	439	0.0
Background (Outdoors)	50.7	34.6	430	0.0

*Highlighted Areas indicate locations in which temperature levels were above the American Society for Heating Refrigeration and Air Conditioning (ASHRAE) Standard 62.1 – 2019 recommended standards for winter months.

Table 2: Particulate Matter Less than 10 Microns (PM10) North Forestville Elementary School	
Location	**Particulate Matter (PM10)** **Concentration (mg/m^3)**
December 1, 2020	
Principal's Office	0.065
Classroom 200	0.067
Classroom 205 (Computer room)	0.068
Multi-purpose Room	0.068
Classroom 211 (Media Center)	0.076
Classroom 103	0.070
Classroom 106	0.071
Classroom 112	0.070
Classroom 116	0.071
Classroom 110	0.076
Background (Outdoors)	0.074

Table 3: Spore Trap Sampling Results North Forestville Elementary School				
December 1, 2020				
Sample Number	**Sample Location**	**Sample Volume (L)**	***Aspergillus Penicillium* Concentration (Counts/m^3)**	**Total Fungi Concentration (Counts/m^3)**
NFES-1	Principal's Office	75.0	90	**5,270**
NFES-2	Classroom 200	75.0	ND	3,440
NFES-3	Classroom 205 (Computer room)	75.0	40	**7,330**
NFES-4	Multi-purpose Room	75.0	40	3,770
NFES-5	Classroom 211 (Media Center)	75.0	40	2,040
NFES-6	Classroom 103	75.0	**700**	**6,610**
NFES-7	Classroom 106	75.0	**480**	**4,540**
NFES-8	Classroom 112	75.0	ND	490
NFES-9	Classroom 116	75.0	300	1,790
NFES-10	Classroom 110	75.0	100	2,600
NFES-BG	Background	75.0	200	3,240

*Highlighted Areas indicate locations with a significantly high concentration of Total mold spores and/ or *Aspergillus/ Penicillium* spores

Table 3: Spore Trap Sampling Results North Forestville Elementary School				
March 2, 2021				
Sample Number	**Sample Location**	**Sample Volume (L)**	***Aspergillus Penicillium* Concentration (Counts/m^3)**	**Total Fungi Concentration (Counts/m^3)**
NFES-1	Principal's Office	75.0	90	180
NFES-2	Classroom 205 (Computer room)	75.0	ND	ND
NFES-3	Classroom 103	75.0	40	330
NFES-4	Classroom 106	75.0	740	970
NFES-BG	Background	75.0	ND	200

APPENDIX B

LABORATORY REPORTS AND CHAIN OF CUSTODY FORMS

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705
Tel/Fax: (301) 937-5700 / (301) 937-5701
http://www.EMSL.com / beltsvillelab@emsl.com

EMSL Order: 192011860
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: Northforestville ES

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/01/2020
Received Date: 12/02/2020
Analyzed Date: 12/07/2020

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	192011860-0001			192011860-0002			192011860-0003		
Client Sample ID:	NFES-1			NFES-2			NFES-3		
Volume (L):	75			75			75		
Sample Location:	Principal's Office			Classroom 200			Classroom 205 (computer)		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	2	90	1.7	3	100	2.9	4	200	2.7
Aspergillus/Penicillium	2	90	1.7	-	-	-	1	40	0.5
Basidiospores	112	4890	92.8	75	3300	95.9	157	6850	93.5
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	5	200	3.8	1	40	1.2	4	200	2.7
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Chaetoconis	-	-	-	-	-	-	-	-	-
Polythrincium	-	-	-	-	-	-	1	40	0.5
Torula-like	-	-	-	-	-	-	-	-	-
Total Fungi	**121**	**5270**	**100**	**79**	**3440**	**100**	**167**	**7330**	**100**
Hyphal Fragment	-	-	-	1*	10*	-	1*	10*	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	1	40	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

Abubakar Barry, Microbiology Lab Manager
or other Approved Signatory

High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed.

Samples analyzed by EMSL Analytical, Inc. Beltsville, MD AIHA-LAP, LLC-EMLAP Accredited #102891

Initial report from: 12/08/2020 09:41 AM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705
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Collected Date: 12/01/2020
Received Date: 12/02/2020
Analyzed Date: 12/07/2020

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	192011860-0004			192011860-0005			192011860-0006		
Client Sample ID:	NFES-4			NFES-5			NFES-6		
Volume (L):	75			75			75		
Sample Location:	Multipurpose room			Media center 211			Classroom 103		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	2	90	2.4	1	40	2	4	200	3
Aspergillus/Penicillium	1	40	1.1	1	40	2	16	700	10.6
Basidiospores	82	3600	95.5	41	1800	88.2	122	5320	80.5
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	1	40	2	7	300	4.5
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	1	40	2	-	-	-
Myxomycetes++	1	40	1.1	1	40	2	2	90	1.4
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Chaetoconis	-	-	-	1	40	2	-	-	-
Polythrincium	-	-	-	-	-	-	-	-	-
Torula-like	-	-	-	-	-	-	-	-	-
Total Fungi	**86**	**3770**	**100**	**47**	**2040**	**100**	**151**	**6610**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	1*	10*	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

Abubakar Barry, Microbiology Lab Manager
or other Approved Signatory

Initial report from: 12/08/2020 09:41 AM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705
Tel/Fax: (301) 937-5700 / (301) 937-5701
http://www.EMSL.com / beltsvillelab@emsl.com

EMSL Order: 192011860
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: Northforestville ES

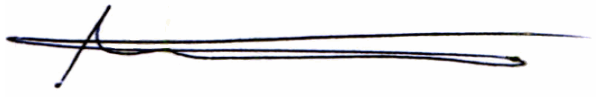
Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/01/2020
Received Date: 12/02/2020
Analyzed Date: 12/07/2020

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	192011860-0007			192011860-0008			192011860-0009		
Client Sample ID:	NFES-7			NFES-8			NFES-9		
Volume (L):	75			75			75		
Sample Location:	Classroom 106			Classroom 112			Classroom 116		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	1*	10*	0.2	-	-	-	-	-	-
Ascospores	4	200	4.4	-	-	-	2	90	5
Aspergillus/Penicillium	11	480	10.6	-	-	-	7	300	16.8
Basidiospores	88	3800	83.7	11	480	98	32	1400	78.2
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	1	40	0.9	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	1*	10*	0.2	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Chaetoconis	-	-	-	-	-	-	-	-	-
Polythrincium	-	-	-	-	-	-	-	-	-
Torula-like	-	-	-	1*	10*	2	-	-	-
Total Fungi	**106**	**4540**	**100**	**12**	**490**	**100**	**41**	**1790**	**100**
Hyphal Fragment	1	40	-	-	-	-	-	-	-
Insect Fragment	1*	10*	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.



Abubakar Barry, Microbiology Lab Manager
or other Approved Signatory

High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed.

Samples analyzed by EMSL Analytical, Inc. Beltsville, MD AIHA-LAP, LLC-EMLAP Accredited #102891

Initial report from: 12/08/2020 09:41 AM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705
Tel/Fax: (301) 937-5700 / (301) 937-5701
http://www.EMSL.com / beltsvillelab@emsl.com

EMSL Order: 192011860
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: Northforestville ES

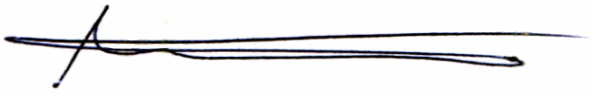
Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/01/2020
Received Date: 12/02/2020
Analyzed Date: 12/07/2020

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	**192011860-0010**			**192011860-0011**					
Client Sample ID:	**NFES-10**			**NFES-11**					
Volume (L):	**75**			**75**					
Sample Location:	**Classroom 110**			**Outdoors**					
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**			
Alternaria (Ulocladium)	1*	10*	0.4	-	-	-			
Ascospores	3	100	3.8	4	200	6.2			
Aspergillus/Penicillium	3	100	3.8	4	200	6.2			
Basidiospores	52	2300	88.5	59	2600	80.2			
Bipolaris++	-	-	-	-	-	-			
Chaetomium	-	-	-	-	-	-			
Cladosporium	7*	90*	3.5	2	90	2.8			
Curvularia	-	-	-	-	-	-			
Epicoccum	-	-	-	-	-	-			
Fusarium	-	-	-	-	-	-			
Ganoderma	-	-	-	-	-	-			
Myxomycetes++	-	-	-	3	100	3.1			
Pithomyces++	-	-	-	-	-	-			
Rust	-	-	-	1*	10*	0.3			
Scopulariopsis/Microascus	-	-	-	1	40	1.2			
Stachybotrys/Memnoniella	-	-	-	-	-	-			
Unidentifiable Spores	-	-	-	-	-	-			
Zygomycetes	-	-	-	-	-	-			
Chaetoconis	-	-	-	-	-	-			
Polythrincium	-	-	-	-	-	-			
Torula-like	-	-	-	-	-	-			
Total Fungi	**66**	**2600**	**100**	**74**	**3240**	**100**			
Hyphal Fragment	1	40	-	1*	10*	-			
Insect Fragment	-	-	-	-	-	-			
Pollen	-	-	-	-	-	-			
Analyt. Sensitivity 600x	-	44	-	-	44	-			
Analyt. Sensitivity 300x	-	13*	-	-	13*	-			
Skin Fragments (1-4)	-	1	-	-	1	-			
Fibrous Particulate (1-4)	-	1	-	-	1	-			
Background (1-5)	-	1	-	-	1	-			

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.



Abubakar Barry, Microbiology Lab Manager
or other Approved Signatory

Initial report from: 12/08/2020 09:41 AM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

OrderID: 192011860

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*):

192011860

PHONE:
FAX:

Company : Tidewater Inc	**EMSL-Bill to:** ☐ Different ☐ Same If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 6625 Selnick Drive, Suite A	
City: Elkridge **State/Province:** MD	**Zip/Postal Code:** **Country:**
Report To (Name): Skanda Abeyesekere	**Telephone #:**
Email Address: skanda@tideh2o.net	**Fax #:** **Purchase Order:**
Project Name/Number: Northforestville ES	**Please Provide Results:** ☐ FAX ☒ E-mail ☐ Mail
U.S. State Samples Taken: Maryland	**Connecticut Samples:** ☐ Commercial ☐ Residential

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ☒ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements

Non Culturable Air Samples (Spore Traps) – Test Codes

• **M001** Air-O-Cell	• **M173** Allegro M2	• **M004** Allergenco	• **M032** Allergenco-D	• **M172** Versa Trap
• **M049** BioSIS	• **M003** Burkard	• **M043** Cyclex	• **M002** Cyclex-d	
• **M030** Micro 5	• **M174** MoldSnap	• **M176** Relle Smart	• **M130** Via-Cell	

Other Microbiology Test Codes

• **M041** Fungal Direct Examination	• **M014** Endotoxin Analysis	• **M029** *Enterococci*
• **M005** Viable Fungi ID and Count	• **M015** Heterotrophic Plate Count	• **M019** Fecal Coliform
• **M006** Viable Fungi ID and Count (Speciation)	• **M180** Real Time Q-PCR-ERMI 36	• **M133** MRSA Analysis
• **M007** Culturable Fungi	• Panel	• **M028** *Cryptococcus neoformans*
• **M008** Culturable Fungi (Speciation)	• **M018** Total Coliform	Detection
• **M009** Gram Stain Culturable Bacteria	(Membrane Filtration)	• **M120** *Histoplasma capsulatum*
• **M010** Bacterial Count and ID – 3 Most	• **M020** Fecal *Streptococcus*	Detection
Prominent	(Membrane Filtration)	• **M033-39** Allergen Testing
• **M011** Bacterial Count and ID – 5 Most	• **M210-215** *Legionella* Detection	• **M044** Group Allergen
Prominent	• **M026** Recreational Water Screen	(Cat, Dog, Cockroach, Dustmites)
• **M013** Sewage Contamination in Buildings	• **M027** Mycotoxin Analysis	• **Other** See Analytical Price Guide

Preservation Method (Water):

Name of Sampler: Skanda Abeyesekere **Signature of Sampler:** Skanda Abeyesekere

Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
Example: A1	Kitchen	Air	M001	75L	1/1/12 4:00 PM
NFES-1	Prrpcipals office	AN	M032	75	12/01/2020
-2	classroom 200				
-3	11 205 (computer)				
4	Multipurpose Room				
5	media center 211				
6	classroom 103				
7	classroom 106				
8	classroom 112				
9	Classroom 116				

Client Sample # (s): 11 **Total # of Samples:** 11

Relinquished (Client): **Date:** 12/01/2020 **Time:**

Received (Client): **Date:** **Time:**

Comments:

RECEIVED
2020 DEC -2 A 9:16
EMSL ANALYTICAL, INC.
BELTSVILLE, MD

OrderID: 192011860

Microbiology Chain of Custody

EMSL Order Number *(Lab Use Only)*:

192011860

PHONE:
FAX:

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
NPES-10	Classroom 110	Air	M032	75	12/01
NPES-BG	Outdoors	"	"	"	"

****Comments/Special Instructions:**

Page 2 of 2 pages

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705
Tel/Fax: (301) 937-5700 / (301) 937-5701
http://www.EMSL.com / beltsvillelab@emsl.com

EMSL Order: 192101970
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: PGCPS NORTH FORRESTVILLE ES

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 03/02/2021
Received Date: 03/02/2021
Analyzed Date: 03/05/2021

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

	192101970-0001			192101970-0002			192101970-0003		
Lab Sample Number:									
Client Sample ID:	NFES-1			NFES-2			NFES-3		
Volume (L):	75			75			75		
Sample Location:	PRINCIPAL'S OFFICE			COMPUTER LAB			CLASSRM 103		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	2	90	50	-	-	-	1	40	12.1
Basidiospores	-	-	-	-	-	-	4	200	60.6
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	6*	80*	44.4	-	-	-	2	90	27.3
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	1*	10*	5.6	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
Total Fungi	**9**	**180**	**100**	**-**	**No Trace**	**-**	**7**	**330**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	1*	10*	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	-	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	-	-	-	1	-
Background (1-5)	-	1	-	-	-	-	-	1	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

Abubakar Barry, Microbiology Lab Manager
or other Approved Signatory

High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed.

Samples analyzed by EMSL Analytical, Inc. Beltsville, MD AIHA-LAP, LLC-EMLAP Accredited #102891

Initial report from: 03/05/2021 02:31 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705
Tel/Fax: (301) 937-5700 / (301) 937-5701
http://www.EMSL.com / beltsvillelab@emsl.com

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6625 Selnick Drive
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Elkridge, MD 21075
Project: PGCPS NORTH FORRESTVILLE ES

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 03/02/2021
Received Date: 03/02/2021
Analyzed Date: 03/05/2021

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	**192101970-0004**			**192101970-0005**					
Client Sample ID:	**NFES-4**			**NFES-BG**					
Volume (L):	**75**			**75**					
Sample Location:	**CLASSRM 106**			**OUTDOORS**					
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**			
Alternaria (Ulocladium)	-	-	-	-	-	-			
Ascospores	1	40	4.1	-	-	-			
Aspergillus/Penicillium	17	740	76.3	-	-	-			
Basidiospores	-	-	-	-	-	-			
Bipolaris++	-	-	-	-	-	-			
Chaetomium	-	-	-	-	-	-			
Cladosporium	2	90	9.3	4	200	100			
Curvularia	-	-	-	-	-	-			
Epicoccum	-	-	-	-	-	-			
Fusarium	-	-	-	-	-	-			
Ganoderma	-	-	-	-	-	-			
Myxomycetes++	1*	10*	1	-	-	-			
Pithomyces++	-	-	-	-	-	-			
Rust	-	-	-	-	-	-			
Scopulariopsis/Microascus	-	-	-	-	-	-			
Stachybotrys/Memnoniella	-	-	-	-	-	-			
Unidentifiable Spores	-	-	-	-	-	-			
Zygomycetes	-	-	-	-	-	-			
Arthrinium	2	90	9.3	-	-	-			
Total Fungi	**23**	**970**	**100**	**4**	**200**	**100**			
Hyphal Fragment	1*	10*	-	1	40	-			
Insect Fragment	-	-	-	-	-	-			
Pollen	-	-	-	-	-	-			
Analyt. Sensitivity 600x	-	44	-	-	44	-			
Analyt. Sensitivity 300x	-	13*	-	-	13*	-			
Skin Fragments (1-4)	-	1	-	-	1	-			
Fibrous Particulate (1-4)	-	1	-	-	1	-			
Background (1-5)	-	1	-	-	1	-			

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

Abubakar Barry, Microbiology Lab Manager
or other Approved Signatory

High levels of background particulate can obscure spores and other particulates, leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed.

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Initial report from: 03/05/2021 02:31 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

OrderID: 192101970

Microbiology Chain of Custody

EMSL Order Number *(Lab Use Only)*:

192101970

PHONE:
FAX:

Company: Tidewater Inc.	**EMSL-Bill to:** ☐ Different ☐ Same If Bill to is Different note instructions in Comments**. *Third Party Billing requires written authorization from third party*
Street: 6625 Selnick Drive, Suite A	
City: Elkridge **State/Province:** MD	**Zip/Postal Code:** **Country:**
Report To (Name): Skanda Abeyesekere	**Telephone #:**
Email Address: skanda@tideh2o.net	**Fax #:** **Purchase Order:**
Project Name/Number: PGCPS North Forrestville ELEMENTARY	**Please Provide Results:** ☐ FAX ☐ E-mail ☐ Mail
U.S. State Samples Taken: MD	**Connecticut Samples:** ☐ Commercial ☐ Residential

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ■ 24 Hour ☐ 48 Hour ☒ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

*Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide. TATs are subject to methodology requirements

Non Culturable Air Samples (Spore Traps) – Test Codes

• **M001** Air-O-Cell • **M049** BioSIS • **M030** Micro 5	• **M173** Allegro M2 • **M003** Burkard • **M174** MoldSnap	• **M004** Allergenco • **M043** Cyclex • **M176** Relle Smart	• **M032** Allergenco-D • **M002** Cyclex-d • **M130** Via-Cell	• **M172** Versa Trap

Other Microbiology Test Codes

• **M041** Fungal Direct Examination • **M005** Viable Fungi ID and Count • **M006** Viable Fungi ID and Count (Speciation) • **M007** Culturable Fungi • **M008** Culturable Fungi (Speciation) • **M009** Gram Stain Culturable Bacteria • **M010** Bacterial Count and ID – 3 Most Prominent • **M011** Bacterial Count and ID – 5 Most Prominent • **M013** Sewage Contamination in Buildings	• **M014** Endotoxin Analysis • **M015** Heterotrophic Plate Count • **M180** Real Time Q-PCR-ERMI 36 Panel • **M018** Total Coliform (Membrane Filtration) • **M020** Fecal *Streptococcus* (Membrane Filtration) • **M210-215** *Legionella* Detection • **M026** Recreational Water Screen • **M027** Mycotoxin Analysis	• **M029** *Enterococci* • **M019** Fecal Coliform • **M133** MRSA Analysis • **M028** *Cryptococcus neoformans* Detection • **M120** *Histoplasma capsulatum* Detection • **M033-39** Allergen Testing • **M044** Group Allergen (Cat, Dog, Cockroach, Dustmites) • **Other** See Analytical Price Guide

Preservation Method (Water):

Name of Sampler: SKANDA ABEYESEKERE **Signature of Sampler:**

Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
Example: A1	Kitchen	Air	M001	75L	1/1/12 4:00 PM
NFES-1	Principal's office	Air	M032	75.0	03/02/2021
-2	Computer Lab				
-3	classroom 103				
-4	classroom 105				
-BG	outdoors				

Client Sample # (s): 5 **Total # of Samples:** 5

Relinquished (Client): **Date:** 03/02/21 **Time:** 12:50

Received (Client): Mercedes Abeyesekere PS **Date:** **Time:**

Comments:

RECEIVED
EMSL ANALYTICAL, INC.
BELTSVILLE, MD
MAR 2 P 2:59

APPENDIX C

INSTRUMENT CALIBRATION CERTIFICATES

TSI P/N 2300157

CERTIFICATE OF CALIBRATION AND TESTING

TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

ENVIRONMENT CONDITIONS		
TEMPERATURE	74.1 (23.4)	°F (°C)
RELATIVE HUMIDITY	26	%RH
BAROMETRIC PRESSURE	29.26 (990.9)	inHg (hPa)

MODEL	9565-X
SERIAL NUMBER	9565X1945002

☒ AS LEFT ☒ IN TOLERANCE
☐ AS FOUND ☐ OUT OF TOLERANCE

-- CALIBRATION VERIFICATION RESULTS --

THERMO COUPLE^ — **SYSTEM PRESSURE01-01** — *Unit: °F (°C)*

#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	71.6 (22.0)	71.6 (22.0)	69.6~73.6 (20.9~23.1)				

BAROMETRIC PRESSURE — **SYSTEM PRESSURE01-01** — *Unit: inHg (hPa)*

#	STANDARD	MEASURED	ALLOWABLE RANGE	#	STANDARD	MEASURED	ALLOWABLE RANGE
1	29.26 (990.9)	29.26 (990.9)	28.67~29.85 (970.9~1010.8)				

^ *Circuit portion of temperature measurement only, not including probe.*

TSI does hereby certify that the above described instrument conforms to the original manufacturer's specification (not applicable to As Found data) and has been calibrated using standards whose accuracies are traceable to the United States National Institute of Standards and Technology (NIST) or has been verified with respect to instrumentation whose accuracy is traceable to NIST, or is derived from accepted values of physical constants. TSI's calibration system is registered to ISO-9001:2015

Measurement Variable	System ID	Last Cal.	Cal. Due	Measurement Variable	System ID	Last Cal.	Cal. Due
DC Voltage	E003299	06-06-19	12-31-20	DC Voltage	E003300	06-06-19	12-31-20
Temperature	E004626	01-09-19	01-31-20	Pressure	E003302	08-07-19	02-29-20
Pressure	E003303	08-26-19	02-29-20				

Rose Germain — CALIBRATED

November 8, 2019 — DATE

Doc. ID CERT_GEN_WCC_TM

TSI P/N 2300157

CERTIFICATE OF CALIBRATION AND TESTING

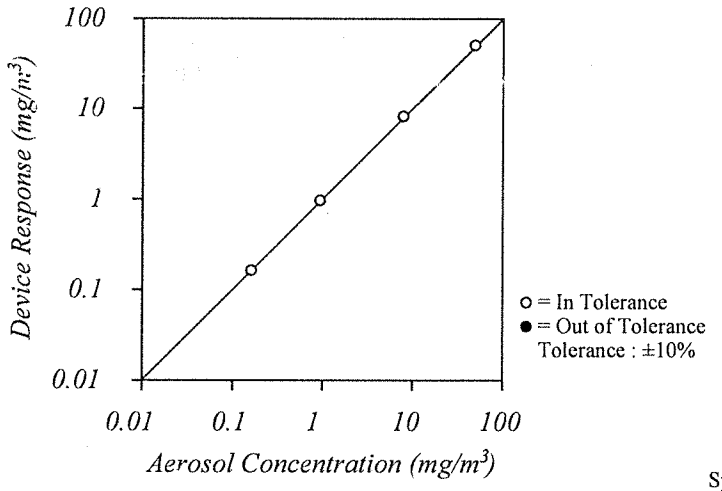
TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

Environment Conditions		
Temperature	75.83 (24.4)	°F (°C)
Relative Humidity	43.6	%RH
Barometric Pressure	28.93 (979.7)	inHg (hPa)

Model	**8534**
Serial Number	**8534170101**

☒ As Left ☒ In Tolerance
☐ As Found ☐ Out of Tolerance

Concentration Linearity Plot



System ID: DTII01-02

FLOW AND PRESSURE VERIFICATION — SYSTEM DTII01-01

Parameter	Standard	Measured	Allowable Range	Parameter	Standard	Measured	Allowable Range
Flow lpm	3.00	3.03	2.88 ~ 3.12	Pressure kPa	97.8	97.8	92.95 ~ 102.73
Full Flow lpm	N/A	4.54	>3.80				

TSI Incorporated does hereby certify that all materials, components, and workmanship used in the manufacture of this equipment are in strict accordance with the applicable specifications agreed upon by TSI and the customer and with all published specifications. All performance and acceptance tests required under this contract were successfully conducted according to required specifications. There is no NIST standard for optical mass measurements. Calibration of this instrument performed by TSI has been done using emery oil and has been nominally adjusted to respirable mass per standard ISO 12103-1, A1 test dust (Arizona dust). Our calibration ratio is greater than 1.2:1

Measurement Variable	System ID	Last Cal.	Cal. Due
DC Voltage	E003314	01-15-20	01-31-21
Microbalance	M001324	10-03-18	10-31-20
3 um PSL	221853	n/a	n/a
Pressure	E003511	10-04-19	10-31-20
DC Voltage	E003315	01-15-20	01-31-21
Flowmeter	E005922	06-29-20	06-30-21
Microbalance	M001324	10-03-18	10-31-20
1 um PSL	698880	n/a	n/a
10 um PSL	212455	n/a	n/a

Measurement Variable	System ID	Last Cal.	Cal. Due
Photometer	E005612	08-19-20	02-28-21
1 um PSL	698880	n/a	n/a
10 um PSL	212455	n/a	n/a
Flowmeter	E005140	01-09-20	01-31-21
Photometer	E003433	09-15-20	03-31-21
DC Voltage(Keithley)	E002859	06-15-20	06-30-21
Pressure	E005651	07-06-20	07-31-21
3 um PSL	206030	n/a	n/a

David Farrell

Calibrated

September 24, 2020

Date

Certificate of Conformance

(X) Buck BioAire™ ( ) Buck BioSlide™

Serial number: B153043 **Date Issued:** 3-18-20

Flow Calibration

The instrument listed above is in conformance with factory specifications and the flow is set to nominal using a BUCK Calibrator which is N.I.S.T. traceable to A. P. Buck, Inc. Calibration Procedure APB-1, Ver. 6.2.

QA APPROVAL BY: Thomas J. Cravener

A.P. BUCK, INC.
7101 Presidents Drive, Suite 110
Orlando, FL 32809
Phone: 407-851-8602 • Fax: 407-851-8910

BUCK
A.P. BUCK, INC.

APPENDIX D

RELEVANT CERTIFICATIONS

ABIH®

american board of industrial hygiene®

organized to improve the practice of industrial hygiene
proclaims that

Skandakumar Harshanath Abeyesekere

having met all requirements of
education, experience and examination, and
ongoing maintenance,
is hereby certified in the

COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE

and has the right to use the designations

CERTIFIED INDUSTRIAL HYGIENIST

CIH®

Certificate Number	**9928 CP**
Awarded:	**May 11, 2011**
Expiration Date:	**December 1, 2021**

Susan Ripple
Chair, ABIH

Chief Executive Officer, ABIH

BOARD OF CERTIFIED SAFETY PROFESSIONALS

affirms that

Skandakumar Abeyesekere

Has applied for, met qualifications, and passed required examination(s) and is hereby authorized to use the designation

Certified Safety Professional®

in Comprehensive Practice

So long as this certificate is not suspended or revoked and the certificant renews this authorization annually and meets Continuance of Certification requirements.

Board of Examiners in witness whereof we have here unto set our hands and affixed the Seal of the Board this 7th Day of April, 2008

Paul S Adams — President

Linda Tapp — Secretary

20110 — CSP No.

INSTITUTE OF HAZARDOUS MATERIALS MANAGEMENT

THIS CERTIFIES THAT

Skandakumar Abeyeskere

HAS SUCCESSFULLY MET ALL THE REQUIREMENTS OF EDUCATION, EXPERIENCE AND EXAMINATION, AND IS HEREBY DESIGNATED A

CERTIFIED HAZARDOUS MATERIALS MANAGER
CHMM

INSTITUTE OF HAZARDOUS MATERIALS MANAGEMENT IHMM CORPORATE SEAL 1984 DISTRICT OF COLUMBIA

May 13, 2016
DATE OF CERTIFICATION

19053
CREDENTIAL NUMBER

May 31, 2021
CERTIFICATION EXPIRES

M. Patricia Buley
ACTING EXECUTIVE DIRECTOR

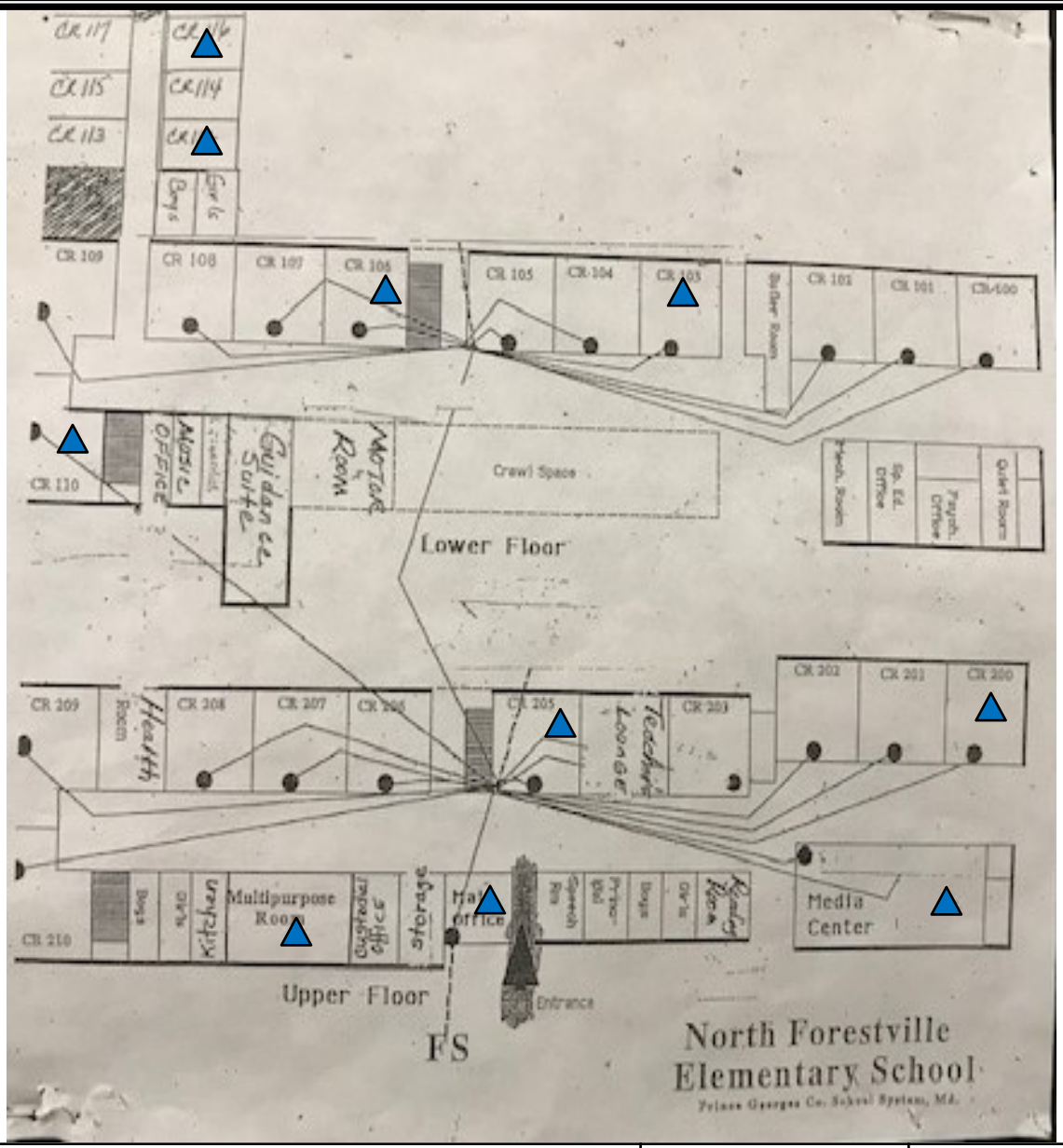
VALID SO LONG AS THIS CREDENTIAL IS RENEWED ACCORDING TO SCHEDULE AND IS NOT OTHERWISE REVOKED.

ANSI Accredited Program PERSONNEL CERTIFICATION

Accredited by the American National Standards Institute and the Council of Engineering and Scientific Specialty Boards

APPENDIX E

FLOOR PLAN WITH SAMPLING LOCATIONS



TIDEWATER INC	**Attachment C** **North Forestville Elementary School** **Floor Plan with Sampling Locations**	Scale: N/A Project #: 5419-033 Date: DECEMBER 1, 2020	**General Notes** ▲ = Sample Location