March 12, 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 – Doswell E. Brooks Elementary School
1301 Brooke Road, Capitol Heights, Maryland 20743
Contract No.: IFB 022-19: Indoor Air Quality Services at Various Locations
Tidewater Project No.: 5419-038

Dear Mr. Baylor:

Tidewater, Inc. (Tidewater) is pleased to present this final report regarding the results of the Indoor Air Quality (IAQ) and Mold Assessment Services conducted by Tidewater at Doswell E. Brooks Elementary School located at 1301 Brooke Road in Capitol Heights, Maryland. Tidewater's Project Manager and Certified Industrial Hygienist, Mr. Skanda Abeyesekere MS, CIH, CSP, CHMM conducted these services on December 3, 2020. Re-sampling of areas with elevated mold concentrations were conducted on February 23, March 2 and March 9, 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: Media Center (Library), Reading Resources (Ms. Evan's Office), Classroom 24, Resource Classroom 13, Computer Laboratory A, Classroom 11, Nurse Room/ Health Room, Multipurpose Room, Classroom 1, and Classroom 5. 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:

Media Center

The air conditioning units were turned on and was emitting cold air from the ceiling-mounted supply air grills at the time of the inspection. A few ceiling mounted-air supply vent had dust accumulations. Several water-stained ceiling tiles were observed in numerous locations. No suspect mold growth nor notable odors were detected. The Media Center was clean and well maintained and housekeeping appeared to be satisfactory.

Reading Resources (Ms. Evan's Office)

No signs of ongoing water-intrusion problems were observed in the Reading Resources Office. Visible suspect surface mold was observed on the ceiling-mounted air supply grills. No odors were detected. The office appeared to be cluttered. Housekeeping can improve.

Classroom 24

No signs of mold growth were observed in the classroom and no odors were detected. A wall-mounted fan coil unit was observed in Classroom 24. This unit was not operating at the time of the inspection. Several water-stained ceiling tiles were observed in numerous locations within the classroom. The Classroom was clean and well maintained.

Resources Room (Classroom 13)

No signs of ongoing water-intrusion problems were observed in the Resources Room (Classroom 13.) A loose dismantled ceiling tile was observed. No suspect mold growth nor notable odors were detected in the classroom. The classroom was clean and well maintained and housekeeping was satisfactory.

Computer Laboratory A

A ceiling tile with heavy water stains was observed above the entrance to Computer Laboratory A. No visible suspect mold growth or notable odors were detected at the time of the inspection. Ceiling mounted air supply grills were clean. The Computer Laboratory was clean and well maintained.

Classroom 11

No signs of ongoing water-intrusion problems were observed in Classroom 11. A wall-mounted fan coil unit was observed. This unit was not operating at the time of the inspection. The front panel of the wall-mounted fan coil unit had been removed for maintenance. A ceiling tile with minor water stains was noted.

Health Room

No signs of ongoing water-intrusion problems or suspect mold growth were observed in the Health Room. Furthermore, no odors were detected. A ceiling tile was missing in the center of the Health Room. The Health Room was clean and well maintained and housekeeping was satisfactory.

Multipurpose Room

The multipurpose room was equipped with window-mounted air conditioning units. The units were not operating at the time of the inspection. No signs of suspect mold growth were observed in the multipurpose room and no notable odors were detected. The wall-mounted supply air grills appeared to be clean and free of dust accumulations.

Classroom 1

No signs of ongoing water-intrusion problems were observed in classroom 1. Furthermore, no odors were detected. The wall-mounted fan coil unit was not operating at the time of the inspection. Three (3) dismantled ceiling tiles were observed in the classroom.

Classroom 5

No signs of ongoing water-intrusion problems were observed in Classroom 5. A ceiling tile with a moderate water stain and visible suspect mold growth was observed in classroom 5. A wall-mounted fan coil unit was observed. This unit was not in 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 3, 2020 ranged between 58.8°F and 71.1°F. The background temperature outside the building was 54.0°F. The temperature levels recorded within most areas monitored were below the lower temperature standard of 68.0°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. The temperature levels in the vacant classrooms are likely to be within ASHRAE standards when the classrooms are re-occupied.

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 3, 2020 ranged between 20.7% and 29.9%. The background relative humidity level outside the building was 28.8%. 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 3, 2020 ranged between 448 ppm to 466 ppm. The background CO_2 level outside the building was 431 ppm. The CO_2 levels within all interior locations assessed did not exceed 700 ppm above the outdoor background CO_2 level of 431 ppm.

The CO levels in all areas assessed on December 3, 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 0.067 mg/m^3 and 0.070 mg/m^3. The average PM10 dust concentration in the background sample obtained in front of the main entrance was 0.068 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 980 spores/m^3 and 22,590 spores/m^3. The total mold spore concentrations in the background sample obtained outdoors was 8,520 spores/m^3. The total mold spore concentrations in samples obtained from the Media Center (sample # DBES-1) and Classroom 5 (sample # DBES-10) were significantly (2.3 X – 2.6 X) higher than the total mold spore concentration obtained in the background sample (sample # DBES-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 Media Center and Classroom 5.

The concentration of *Aspergillus/ Penicillium* spores detected in the Media Center (sample # DBES-1), Resource Room – Ms. Evan's (DBES-2), Reading Resource Room – Classroom 13 (DEBE-4), Health Suite (DBES-6) and Classroom 5 (DBES-10) were also significantly higher than the concentration of A*spergillus/ Penicillium* spores detected in the background sample DBES-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 suspect mold growth were observed on the ceiling-mounted supply grills in the Reading Resources Room (Ms. Evan's Office) and a ceiling tile with visible mold growth was noted in Classroom 5. Although visible suspect surface mold formations were not observed in the Media Center, Resource Room, Reading Resources Room (Classroom 13), Health Suite, and Classroom 5, 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 February 23, March 2, and March 9, 2021 following cleanup activities. The results indicated that the total mold spore concentrations in the interior location was consistent with those observed in the background sample. The results did not indicate elevated levels of airborne total fungal spores in the interior location 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:
  - Media Center: A few ceiling-mounted supply air vents had dust accumulations. Several ceiling tiles with visible water stains were observed.
  - Reading Resources Room: Visible surface mold was observed on the ceiling-mounted air supply grills.
  - Classroom 24: Several ceiling tiles with visible water stains were observed.
  - Resources Room (Classroom 13): A loose dismantled ceiling tile was observed.
  - Computer Laboratory A: A ceiling tile with heavy water stains was observed above the entrance.
  - Classroom 11: Front panel of the wall-mounted fan coil unit had been removed for maintenance. A ceiling tile with minor water stains was observed.
  - Health Room: A missing ceiling tile observed in the center of the Health Suite.
  - Classroom 1: Multiple dismantled ceiling tiles were observed.
  - Classroom 5: A ceiling tile with moderate water stains and visible mold growth was observed in the Classroom. The front panel of the wall-mounted fan coil unit had been removed.
- The temperature levels in most areas assessed were below the lower temperature standard of 68.0°F recommended by ASHRAE 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 all interior locations assessed following re-cleaning were below the background sample concentration and were also consistent with those observed in the background sample. 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:

- Investigate the drop ceiling above the water-stained ceiling tiles in the Media Center, Classroom 24, Commuter Laboratory A, Classroom 11, and Classroom 5 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.
- Clean the ceiling-mounted air supply air vent in the Media Center with a commercially available (EPA approved) disinfectant on a routine basis to remove dust deposits.
- Appropriate steps should be taken to remediate the mold-impacted surfaces in the Reading Resources Room and Classroom 5 and sanitize the surrounding areas. The supply grills and perimeters of the ceiling grids should be cleaned with a commercially

available (EPA approved) fungicide to mitigate existing fungal spores prior to installing new ceiling tiles;

- Adjust all dislodged ceiling tiles in Resources Room (Classroom 13) and Classroom 1 to ensure that they are placed snugly into the ceiling grids.
- Replace the missing front panel of the wall-mounted fan coil unit in Classroom 5 and Classroom 11 once all maintenance activities are complete;
- Adjust thermostat of the Heating Ventilation and Air Conditioning (HVAC) System supplying air to all classrooms and common areas 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.

Qualifications

Tidewater endeavored to investigate existing conditions in select areas of Doswell E. Brooks Elementary School located at 1301 Brooke Road in Capitol Heights, 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

Jonathan N. Schatz, MS
Manager, IH Services

SA/JNS

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 Doswell E. Brooks Elementary School				
Location	**Temperature (°F)**	**Carbon Dioxide (ppm)**	**Relative Humidity (%)**	**Carbon Monoxide (ppm)**
December 3, 2020				
Media Center	68.4	456	29.9	0.0
Resources Room (Ms. Evan's)	70.4	463	25.3	0.0
Classroom 24	71.1	466	23.7	0.0
Reading Resource Room Classroom 13	65.8	450	22.2	0.0
Computer Lab A	66.0	453	20.7	0.0
Classroom 11	61.6	451	23.5	0.0
Health Suite	63.3	450	26.2	0.0
Multipurpose Room	65.4	459	23.7	0.1
Classroom 1	62.9	448	25.0	0.0
Classroom 5	58.8	448	25.1	0.0
Background (Outdoors)	54.0	431	28.8	0.0

*Highlighted Areas indicate locations in which temperature levels were below 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) Doswell E. Brooks Elementary School	
Location	**Particulate Matter (PM10)** **Concentration (mg/m^3)**
December 3, 2020	
Media Center	0.070
Resources Room (Ms. Evan's)	0.070
Classroom 24	0.069
Reading Resource Room (Classroom 13)	0.068
Computer Lab A	0.068
Classroom 11	0.068
Health Suite	0.067
Multipurpose Room	0.068
Classroom 1	0.067
Classroom 5	0.067
Background (Outdoors)	0.068

Table 3: Spore Trap Sampling Results Doswell E. Brooks Elementary School				
December 3, 2020				
Sample Number	**Sample Location**	**Sample Volume (L)**	***Aspergillus Penicillium* Concentration (Counts/m^3)**	**Total Fungi Concentration (Counts/m^3)**
DBES-1	Media Center	75.0	**19,400**	**19,680**
DBES-2	Resources Room (Ms. Evan's)	75.0	**2,500**	2,700
DBES-3	Classroom 24	75.0	450	980
DBES-4	Reading Resource Room Classroom 13	75.0	**2,900**	3,240
DBES-5	Classroom 11	75.0	900	1,840
DBES-6	Health Suite	75.0	**2,100**	2,400
DBES-7	Multipurpose Room	75.0	820	1,820
DBES-8	Computer Lab A	75.0	1,500	2,490
DBES-9	Classroom 1	75.0	490	2,450
DBES-10	Classroom 5	75.0	**19,200**	**22,590**
DBES-BG	Background	75.0	400	8,520

*Highlighted Areas indicate locations with a significantly high concentration of Total mold spores and/ or *Aspergillus/ Penicillium* spores when compared with the background sample.

Table 3: Spore Trap Sampling Results Doswell E. Brooks Elementary School				
February 23, 2021				
Sample Number	**Sample Location**	**Sample Volume (L)**	***Aspergillus Penicillium* Concentration (Counts/m^3)**	**Total Fungi Concentration (Counts/m^3)**
DBES-1	Media Center	75.0	400	540
DBES-2	Resources Room (Ms. Evan's)	75.0	**2,800**	**3,000**
DBES-4	Reading Resource Room Classroom 13	75.0	100	300
DBES-6	Health Suite	75.0	300	420
DBES-10	Classroom 5	75.0	**5,530**	**6,310**
DBES-BG	Background	75.0	40	3,060

Table 3: Spore Trap Sampling Results Doswell E. Brooks Elementary School				
March 2, 2021				
Sample Number	**Sample Location**	**Sample Volume (L)**	***Aspergillus Penicillium* Concentration (Counts/m^3)**	**Total Fungi Concentration (Counts/m^3)**
DBES-1	Classroom 5	75.0	None Detected	None Detected
DBES-2	Resources Room (Ms. Evan's)	75.0	**2,100**	**2,340**
DBES-BG	Background	75.0	40	130

Table 3: Spore Trap Sampling Results Doswell E. Brooks Elementary School				
March 9, 2021				
Sample Number	**Sample Location**	**Sample Volume (L)**	***Aspergillus Penicillium* Concentration (Counts/m^3)**	**Total Fungi Concentration (Counts/m^3)**
030921-DBES-1	Resources Room (Ms. Evan's)	75.0	200	100
030921-DBES-BG	Background	75.0	280	1,380

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: 192011935
Customer ID: TIDE50
Customer PO:
Project ID:

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

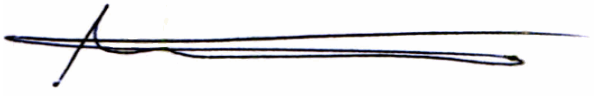
Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/03/2020
Received Date: 12/03/2020
Analyzed Date: 12/08/2020

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

Lab Sample Number:	192011935-0001			192011935-0002			192011935-0003		
Client Sample ID:	DBES-1			DBES-2			DBES-3		
Volume (L):	75			75			75		
Sample Location:	Media Center			Ms. Evan's CR			Classroom 24		
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	472	19400	98.6	62	2500	92.6	11	450	45.9
Basidiospores	2	80	0.4	4	200	7.4	12	490	50
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	5	200	1	-	-	-	1	40	4.1
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**479**	**19680**	**100**	**66**	**2700**	**100**	**24**	**980**	**100**
Hyphal Fragment	1	40	-	-	-	-	-	-	-
Insect Fragment	-	-	-	1	40	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	41	-	-	41	-	-	41	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	2	-	-	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: 12/09/2020 01:03 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
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EMSL Order: 192011935
Customer ID: TIDE50
Customer PO:
Project ID:

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

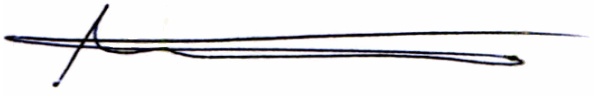
Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/03/2020
Received Date: 12/03/2020
Analyzed Date: 12/08/2020

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

Lab Sample Number:	192011935-0004			192011935-0005			192011935-0006		
Client Sample ID:	DBES-4			DBES-5			DBES-6		
Volume (L):	75			75			75		
Sample Location:	Resource room			Classroom 11			Health Suite		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	1	40	1.2	-	-	-	-	-	-
Aspergillus/Penicillium	71	2900	89.5	22	900	48.9	51	2100	87.5
Basidiospores	7	300	9.3	23	940	51.1	7	300	12.5
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**79**	**3240**	**100**	**45**	**1840**	**100**	**58**	**2400**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	1*	10*	-	1	40	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	41	-	-	41	-	-	41	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	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: 12/09/2020 01:03 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

EMSL Order: 192011935
Customer ID: TIDE50
Customer PO:
Project ID:

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

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/03/2020
Received Date: 12/03/2020
Analyzed Date: 12/08/2020

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

Lab Sample Number:	192011935-0007			192011935-0008			192011935-0009		
Client Sample ID:	DBES-7			DBES-8			DBES-9		
Volume (L):	75			75			75		
Sample Location:	Multipurpose room			Computer Lab A			Classroom 1		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	2	80	3.3
Aspergillus/Penicillium	20	820	45.1	37	1500	60.2	12	490	20
Basidiospores	25	1000	54.9	24	990	39.8	43	1800	73.5
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	2	80	3.3
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**45**	**1820**	**100**	**61**	**2490**	**100**	**59**	**2450**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	1*	10*	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	41	-	-	41	-	-	41	-
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: 12/09/2020 01:03 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

EMSL Order: 192011935
Customer ID: TIDE50
Customer PO:
Project ID:

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

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/03/2020
Received Date: 12/03/2020
Analyzed Date: 12/08/2020

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

Lab Sample Number:	192011935-0010			192011935-0011					
Client Sample ID:	DBES-10			DBES-BG					
Volume (L):	75			75					
Sample Location:	Classroom 5			Background					
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**			
Alternaria (Ulocladium)	-	-	-	-	-	-			
Ascospores	2	80	0.4	13	530	6.2			
Aspergillus/Penicillium	468	19200	85	9	400	4.7			
Basidiospores	41	1700	7.5	180	7390	86.7			
Bipolaris++	-	-	-	1*	10*	0.1			
Chaetomium	-	-	-	-	-	-			
Cladosporium	39	1600	7.1	3	100	1.2			
Curvularia	-	-	-	-	-	-			
Epicoccum	-	-	-	1*	10*	0.1			
Fusarium	-	-	-	-	-	-			
Ganoderma	-	-	-	-	-	-			
Myxomycetes++	1*	10*	0	1	40	0.5			
Pithomyces++	-	-	-	-	-	-			
Rust	-	-	-	1	40	0.5			
Scopulariopsis/Microascus	-	-	-	-	-	-			
Stachybotrys/Memnoniella	-	-	-	-	-	-			
Unidentifiable Spores	-	-	-	-	-	-			
Zygomycetes	-	-	-	-	-	-			
Total Fungi	**551**	**22590**	**100**	**209**	**8520**	**100**			
Hyphal Fragment	-	-	-	1	40	-			
Insect Fragment	1	40	-	-	-	-			
Pollen	1*	10*	-	-	-	-			
Analyt. Sensitivity 600x	-	41	-	-	41	-			
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.

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

Initial report from: 12/09/2020 01:03 PM

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

OrderID: 192011935

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*):

192011935

Company: Tidewater Inc	**EMSL-Bill to:** ☐ Different ☐ Same If Bill to is Different note instructions in Comments**
Street: 6625 Selnick Drive, Suite A	*Third Party Billing requires written authorization from third party*
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: DOSWELL BROOKS 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
DBES-1	Media center	Air	M032	75-6	12/3/2020
-2	MS. Evan's CR				
-3	class room 24				
-4	Resource room				
-8	Computer Lab A				
-5	classroom 11				
-6	Health Suite				
-7	multipropose room				
-9	Classroom 1				

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

Relinquished (Client): Skanda Abeyesekere **Date:** 12/03/2020 **Time:** 4:00pm

Received (Client): **Date:** 12/3/2020 **Time:**

Comments:

RECEIVED 2020 DEC -3 P 3:00 EMSL ANALYTICAL, INC BELTSVILLE, MD

OrderID: 192011935

Microbiology Chain of Custody

EMSL Order Number *(Lab Use Only)*:

192011935

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
DB ES-10	Classroom 5	Air	M032	~~75~~	12/03/20
		"	"	"	"
DB ES-BG	Background	"	"	"	"

****Comments/Special Instructions:**

Page 2 of 2 pages

EMSL Analytical, Inc.

5221 Militia Hill Road Plymouth Meeting, PA 19462
Tel/Fax: (610) 828-3102 / (610) 828-3122
http://www.EMSL.com / plymouthmeetinglab@emsl.com

EMSL Order: 182100684
Customer ID: TIDE50
Customer PO:
Project ID:

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

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 02/23/2021
Received Date: 02/26/2021
Analyzed Date: 02/26/2021

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

Lab Sample Number:	182100684-0001			182100684-0002			182100684-0003		
Client Sample ID:	DBES-1			DBES-2			DBES-4		
Volume (L):	75			75			75		
Sample Location:	Media Center			Resource Room (Ms. Evans)			Reading Resources Rm Classroom 13		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	1	40	7.4	-	-	-	-	-	-
Aspergillus/Penicillium	9	400	74.1	66	2800	93.3	3	100	33.3
Basidiospores	3	100	18.5	4	200	6.7	5	200	66.7
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**13**	**540**	**100**	**70**	**3000**	**100**	**8**	**300**	**100**
Hyphal Fragment	-	-	-	-	-	-	1*	10*	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Fern/Moss	1*	10*	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	42	-	-	42	-	-	42	-
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.

Kevin Ream, Laboratory 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. Plymouth Meeting, PA AIHA-LAP, LLC-EMLAP Accredited #178659

Initial report from: 02/26/2021 02:56 PM

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

EMSL Analytical, Inc.

5221 Militia Hill Road Plymouth Meeting, PA 19462
Tel/Fax: (610) 828-3102 / (610) 828-3122
http://www.EMSL.com / plymouthmeetinglab@emsl.com

EMSL Order: 182100684
Customer ID: TIDE50
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Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: PGCPS Poswell Brooks ES

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 02/23/2021
Received Date: 02/26/2021
Analyzed Date: 02/26/2021

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

Lab Sample Number:	182100684-0004			182100684-0005			182100684-0006		
Client Sample ID:	DBES-6			DBES-10			DBES-BG		
Volume (L):	75			75			75		
Sample Location:	Health Suite			Classroom 5			Outdoors		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	1	40	0.6	-	-	-
Ascospores	-	-	-	8	300	4.8	10	420	13.7
Aspergillus/Penicillium	6	300	71.4	131	5530	87.6	1	40	1.3
Basidiospores	1	40	9.5	8	300	4.8	58	2400	78.4
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	2	80	19	3	100	1.6	4	200	6.5
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	1	40	0.6	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**9**	**420**	**100**	**152**	**6310**	**100**	**73**	**3060**	**100**
Hyphal Fragment	-	-	-	-	-	-	1	40	-
Insect Fragment	-	-	-	1	40	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Fern/Moss	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	42	-	-	42	-	-	42	-
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.

Kevin Ream, Laboratory Manager
or other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Plymouth Meeting, PA AIHA-LAP, LLC-EMLAP Accredited #178659

Initial report from: 02/26/2021 02:56 PM

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

OrderID: 182100684

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*)

182100684

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 Roswell Brooks ES	**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
DBES-1	Media Center	AIR	M032	75.0	02/23/2021
DBES-2	Resource Room (Ms. Evans)				
DBES-4	Reading Resources Rm. classroom 13				
DBES-6	Health suite				
DBES-10	classroom 5				
DBES-BG	outdoors				

Client Sample # (s): 6 **Total # of Samples:** 6

Relinquished (Client): **Date:** 02/23/2021 **Time:** 11:30 AM

Received (Client): **Date:** 2-26-21 **Time:** 12:30

Comments:

~~443-827-3475~~
240-678629

EMSL Analytical, Inc.

5221 Militia Hill Road Plymouth Meeting, PA 19462
Tel/Fax: (610) 828-3102 / (610) 828-3122
http://www.EMSL.com / plymouthmeetinglab@emsl.com

EMSL Order: 182100860
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: PGCPS Dosewell Brooks

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date:
Received Date: 03/10/2021
Analyzed Date: 03/11/2021

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

	182100860-0001			182100860-0002		
Lab Sample Number:						
Client Sample ID:	030921-DBES-1			030921-DBES-BG		
Volume (L):	75			75		
Sample Location:	Resources Room (Ms. Evans)			Outdoors		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-
Ascospores	1	40	14.3	9	400	29
Aspergillus/Penicillium	5	200	71.4	3	100	7.2
Basidiospores	-	-	-	16	680	49.3
Bipolaris++	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-
Cladosporium	1	40	14.3	5	200	14.5
Curvularia	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-
Rust	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-
Total Fungi	**7**	**280**	**100**	**33**	**1380**	**100**
Hyphal Fragment	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-
Pollen	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	42	-	-	42	-
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.

Kevin Ream, Laboratory 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. Plymouth Meeting, PA AIHA-LAP, LLC-EMLAP Accredited #178659

Initial report from: 03/11/2021 12:00 PM

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

OrderID: 182100860

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*):

182100860

PHONE:
FAX:

Company: Tidewater Inc.	**EMSL-Bill to:** ☐ Different ☐ Same If Bill to is Different note instructions in Comments**
Street: 6625 Selnick Drive, Suite A	*Third Party Billing requires written authorization from third party*
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 Dosewell Books	**Please Provide Results:** ☐ FAX ☐ E-mail ☐ Mail
U.S. State Samples Taken: MD ES	**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* Detection
• **M008** Culturable Fungi (Speciation)	• **M018** Total Coliform (Membrane Filtration)	• **M120** *Histoplasma capsulatum* Detection
• **M009** Gram Stain Culturable Bacteria	• **M020** Fecal *Streptococcus* (Membrane Filtration)	• **M033-39** Allergen Testing
• **M010** Bacterial Count and ID – 3 Most Prominent	• **M210-215** *Legionella* Detection	• **M044** Group Allergen (Cat, Dog, Cockroach, Dustmites)
• **M011** Bacterial Count and ID – 5 Most Prominent	• **M026** Recreational Water Screen	• **Other** See Analytical Price Guide
• **M013** Sewage Contamination in Buildings	• **M027** Mycotoxin Analysis	

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
030921-BBES-1	Resources Room (ms Evan's)	Air	M032	75.0	03/09/2021
030921-BBES-02	BG outdoors	Air	M032	75.0	03/09/2021
03					

Client Sample # (s): 2 - **Total # of Samples:** 2

Relinquished (Client): **Date:** 03/09/2021 **Time:** 1:00pm

Received (Client): **Date:** 3-10-21 **Time:** 10:00

Comments:

EMSL Fedex
814749221241

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

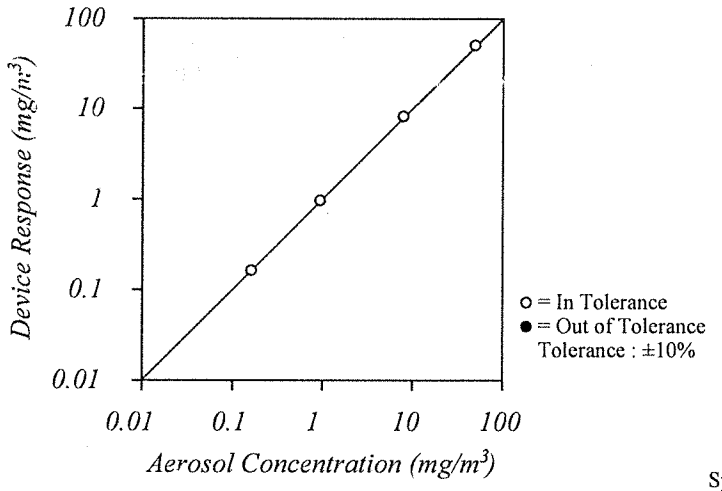
TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

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. Cranmer

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

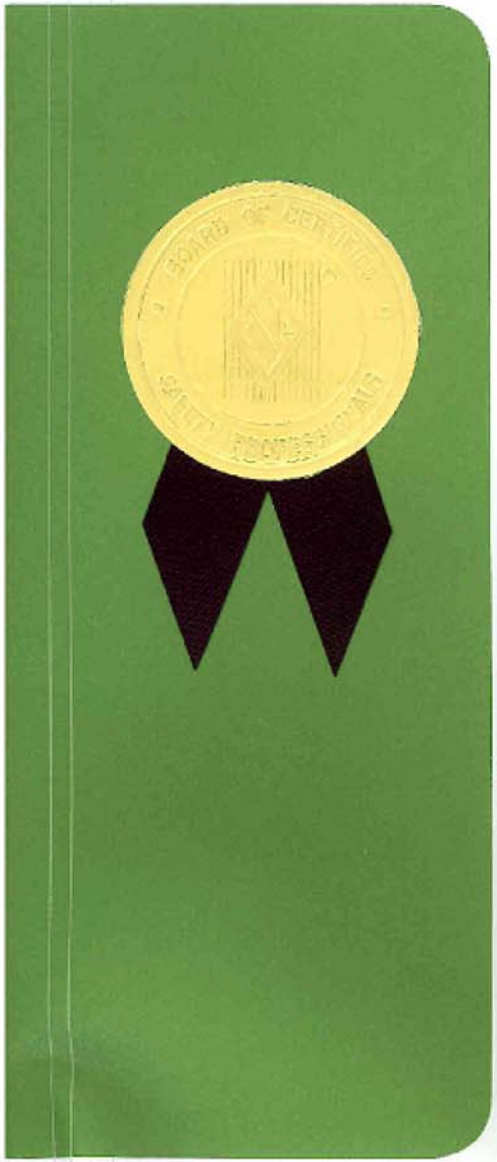
CERTIFIED INDUSTRIAL HYGIENIST

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** **Doswell E. Brooks Elementary School** **Floor Plan with Sampling Locations**	Scale: N/A Project #: 5419 - 038 Date: December 3 2020	**General Notes** ▲ = Sample Location