March 10, 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 (PGCPS) – Hyattsville Middle School
6001 42nd Avenue #1522, Hyattsville, Maryland 20781
Contract No.: IFB 022-19: Indoor Air Quality Services at Various Locations
Tidewater Project No.: 5419-043

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 Hyattsville Middle School located at 6001 42nd Avenue #1522 in Hyattsville, Maryland. These services were conducted on December 12, 2020, by Tidewater's Industrial Hygienist, Mr. Joel Kissoondath. Re-sampling of areas with elevated mold concentrations was conducted on March 8, 2021 by Tidewater's Project Manager and Certified Industrial Hygienist, Mr. Skanda Abeyesekere MS, CIH, CSP, CHMM.

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: Classroom 109, Classroom 201, Classroom 209, Classroom 306, Classroom 309, Temporary Classroom 4, Gymnasium, Hallway Outside Dance Room, Hallway Outside Multipurpose Room and the Media Center (Office) 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:

Classroom 109

The wall-mounted fan coil unit was not operating at the time of the inspection. Water stains were observed on floor at the base of the unit and on multiple ceiling tiles and metal grids above the unit. The classroom appeared to be clean and well maintained. Housekeeping appeared to be satisfactory.

Classroom 201

A wall-mounted fan coil unit was operating and was emitting warm air at the time of the inspection. Water stains were observed on floor at the base of the unit. No notable odors were detected. The classroom appeared to be clean and well maintained. Housekeeping appeared to be satisfactory.

Classroom 209

The wall-mounted fan coil unit was not operating at the time of the inspection. No notable odors were detected. Water stains were observed on floor at the base of the unit and on the wall by the windows. The classroom appeared to be clean and well maintained.

Classroom 306

No signs of ongoing water-intrusion problems were observed in the classroom and no notable odors were detected. A wall-mounted fan coil unit was operating and was emitting warm air at the time of the inspection. The classroom appeared to be clean and well maintained.

Classroom 309

A wall-mounted fan coil unit was operating and was emitting warm air at the time of the inspection. No signs of past or ongoing water-intrusion problems were observed in the classroom and no notable odors were detected. The classroom appeared to be clean and well maintained.

Temporary Classroom 4

No signs of past or ongoing water-intrusion problems were observed in the classroom and no notable odors were detected. The wall-mounted fan coil unit was not operating at the time of the inspection. This outdoor vestibule classroom appeared to be clean and well maintained. Housekeeping appeared to be satisfactory.

Gymnasium

Wall-mounted fan coil units were in operation and were emitting warm air at the time of the inspection. The wall-mounted fan coil unit appeared to have a leak or condensation issues that cause water to drip onto the hardwood flooring. The gymnasium appeared to be clean and well maintained. Housekeeping appeared to be satisfactory. No notable odors were detected.

Hallway Outside Dance Room

Signs of past or ongoing water-intrusion problems were observed in the hallway outside the dance room. Ceiling tiles with heavy water stains and visible suspect mold growth as well as broken

/missing ceiling tiles were observed in numerous locations. Missing and broken floor tiles were also observed on the hallway. A bucket had been placed underneath the affected ceiling tiles to collect water dripping from the ceiling. A mildew odor was detected inside the dance room.

Hallway Outside Multipurpose Room

Numerous ceiling tiles with heavy water stains were observed in the hallway and in the Foyer area at the main entrance. Furthermore, water stains and rust buildup were also observed on the metal wall along the hallway. No notable odors were detected.

Media Center Office

Ceiling tiles with heavy water stains and visible suspect mold growth as well as broken /missing ceiling tiles were observed in numerous locations in the media center (office) and in the adjacent office space. A bucket had been placed underneath the water damaged ceiling tiles to collect water dripping from the ceiling. No notable odors were detected.

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. The results were compared to the 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 "outdoor background" measurement at the 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 15, 2020 ranged between 52.9°F and 74.9°F. The background temperature outside the building was 48.4°F. The temperature levels recorded within the hallway outside the Dance Room, the Hallway outside Multipurpose Room, Classroom 109, Classroom 306 and Temporary Classroom #4 were below the temperature levels typically observed during the fall-winter transitional period. All areas inspected were vacant at the time of the inspection.

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 15, 2020 ranged between 16.8% and 32.7%. The background relative humidity level outside the building was 27.0%. 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 15, 2020 ranged between 439 ppm to 454 ppm. The background CO_2 level outside the building was 443 ppm. The CO_2 levels within all interior locations assessed did not exceed 700 ppm above the outdoor background CO_2 level of 443 ppm.

The CO levels in all areas assessed on December 15, 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 within 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" measurement 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 0.004 mg/m^3 and 0.043 mg/m^3. The average PM10 dust concentration in the background sample in front of the main entrance was 0.020 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 select locations within the school to characterize air quality for total airborne total fungal spores. The samples were collected 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 at each sample location to collect a total sample volume of 75.0 liters of air. Tidewater also obtained an "outdoor background" measurement 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 indoor locations assessed within the school ranged between "none detect" and 8,900 spores/m^3. The total mold spore concentrations in the outdoors background sample was 3,530 spores/m^3. The total mold spore concentrations in all indoor samples, except sample #121520-A1 obtained from the media center, were below the background sample concentration of 3,530 spores/m^3. The total mold spore concentration in sample #121520-A1 was 8,900 spores/m^3 and was significantly higher than the total mold concentration of 3,530 spores/m^3 detected in the background sample. Furthermore, the concentration of A*spergillus/ Penicillium* spores detected in sample #121520-A1 (8,640 spores/m^3) was also significantly higher than the A*spergillus/ Penicillium* spore concentration detected in the background sample (1,300 spores/m^3) and indicate a potential source (s) of mold which was confirmed by the visible mold growth observed in the media center.

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.

The area with elevated mold spores were re-sampled on March 8, 2021 following cleanup activities. The results indicated that the species makeup of the interior location re-sampled 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 resampled.

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 follow issues were identified during the visual inspections:
  - Classroom 109: Water stains were present on floor at the base of the unit and on the ceiling tile and metal grid above.
  - Classroom 201: Water stains were present on floor at the base of the unit.
  - Classroom 209: Water stains were present on floor at the base of the unit and on the wall by the windows.
  - Gymnasium: The wall-mounted fan coil unit appeared to have a leak or condensation which drips onto the hardwood flooring below.

- Hallway Outside Dance Room: Broken and missing ceiling tiles and ceiling tiles with heavy water-stains and visible suspect mold growth were observed. Missing and broken floor tiles were observed along hallway. A mild odor was detected inside the dance room.
- Hallway outside the Multipurpose Room: Ceiling tiles with heavy water stains as well as rust buildup were observed on the metal wall along the hallway. Ceiling tiles with water stains also observed in the foyer area at the main entrance.
- Media Center Office and adjacent office space: Broken and missing ceiling tiles as well as ceiling tiles with heavy water-stains and visible mold growth.

- Temperature levels recorded within the hallway outside the Dance Room, the Hallway outside Multipurpose Room, Classroom 109, Classroom 306 and Temporary Classroom #4 were below the ASHRAE Standard of 68.0°F and 74.5°F recommended 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 were 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 air plenums above the water-stained suspended ceiling tiles in the Media Center Office, Hallway outside the Dance Room, Hallway outside the Multipurpose Room and Classroom 109 for any ongoing water leaks. If any ongoing water leaks are detected, take immediate action to repair them.
- Investigate the interior wall in the Hallway outside the Multipurpose Room for any ongoing water leaks. If any ongoing water leaks are detected, take action to repair them immediately.
- Investigate and inspect the wall-mounted fan coil units in the Gymnasium, Classroom 109, Classroom 209 and Classroom 309 for any ongoing water leaks or condensation problems. If any ongoing water leaks or condensation problems are detected, take action to repair them immediately.
- Appropriate steps should be taken to remediate all suspect mold on affected surfaces, including ceiling tiles and sanitize the surrounding areas. Tidewater recommends hiring a 3rd party remediation company specializing in mold remediation to abate all mold-infested and water damaged ceiling tiles and other water damaged material 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 in the affected areas.
- Adjust thermostat of the Heating Ventilation and Air Conditioning (HVAC) System supplying air to the 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 Hyattsville Middle School located at 6001 42nd Avenue #1522 in Hyattsville, 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 Hyattsville Middle School				
Location	**Temperature (°F)**	**Carbon Dioxide (ppm)**	**Relative Humidity (%)**	**Carbon Monoxide (ppm)**
December 15, 2020				
Media Center Office	68.8	451	25.7	0.0
Gymnasium	69.0	442	26.9	0.0
Hallway Outside Dance Room	66.9	449	21.2	0.0
Hallway Outside Multipurpose Room	67.0	454	28.0	0.0
Classroom 109	67.2	444	25.1	0.0
Classroom 201	71.1	453	21.1	0.0
Classroom 209	70.6	450	21.3	0.0
Classroom 309	72.1	442	22.5	0.0
Classroom 306	74.9	439	16.8	0.0
Temporary Classroom #4	52.9	445	32.7	0.0
Background (Outdoors)	48.4	443	27.0	0.0

*Highlighted Areas indicate locations in which temperature levels were below and (1) location 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) Hyattsville Middle School	
Location	**Particulate Matter (PM10)** **Concentration (mg/m^3)**
December 15, 2020	
Media Center Office	0.043
Gymnasium	0.008
Hallway Outside Dance Room	0.011
Hallway Outside Multipurpose Room	0.012
Classroom 109	0.007
Classroom 201	0.009
Classroom 209	0.006
Classroom 309	0.004
Classroom 306	0.005
Temporary Classroom #4	0.005
Background (Outdoors)	0.020

Table 3: Spore Trap Sampling Results Hyattsville Middle School				
December 15, 2020				
Sample Number	**Sample Location**	**Sample Volume (L)**	***Aspergillus Penicillium* Concentration (Counts/m^3)**	**Total Fungi Concentration (Counts/m^3)**
121520-A1	Media Center Office	75.0	**8,640**	**8,900**
121520-A2	Gymnasium	75.0	100	670
121520-A3	Hallway Outside Dance Room	75.0	440	920
121520-A4	Hallway Outside Multipurpose Room	75.0	200	380
121520-A5	Classroom 109	75.0	None Detected	110
121520-A6	Classroom 201	75.0	90	230
121520-A7	Classroom 209	75.0	None Detected	90
121520-A8	Classroom 309	75.0	None Detected	None Detected
121520-A9	Classroom 306	75.0	None Detected	80
121520-A10	Temporary Classroom #4	75.0	None Detected	None Detected
121520-A11	Background	75.0	1,300	3,530

*Highlighted - indicate location with a significantly high concentration of Total mold spores and *Aspergillus/ Penicillium* when compared with the outdoor background sample.

Table 3: Spore Trap Sampling Results Hyattsville Middle School				
March 8, 2021				
Sample Number	**Sample Location**	**Sample Volume (L)**	***Aspergillus Penicillium* Concentration (Counts/m^3)**	**Total Fungi Concentration (Counts/m^3)**
121520-A1	Media Center Office	75.0	80	120
121520-A11	Background	75.0	None Detected	50

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: 192012376
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: Hyattsville M.S.

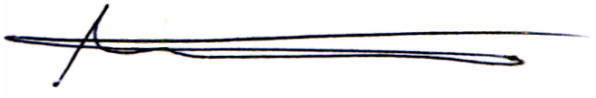
Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/15/2020
Received Date: 12/15/2020
Analyzed Date: 12/21/2020

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

	192012376-0001			192012376-0002			192012376-0003		
Lab Sample Number:									
Client Sample ID:	121520-A1			121520-A2			121520-A3		
Volume (L):	75			75			75		
Sample Location:	Media ctr off 1st Fl.			Gym			Hallway out Dance Basement		
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	0.4	-	-	-	-	-	-
Aspergillus/Penicillium	198	8640	97.1	3	100	14.9	10	440	47.8
Basidiospores	4	200	2.2	13	570	85.1	11	480	52.2
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	1*	10*	0.1	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	1*	10*	0.1	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**205**	**8900**	**100**	**16**	**670**	**100**	**21**	**920**	**100**
Hyphal Fragment	1	40	-	1	40	-	-	-	-
Insect Fragment	1	40	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	2	-	-	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: 12/22/2020 10:10 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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Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/15/2020
Received Date: 12/15/2020
Analyzed Date: 12/21/2020

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

Lab Sample Number:	192012376-0004			192012376-0005			192012376-0006		
Client Sample ID:	121520-A4			121520-A5			121520-A6		
Volume (L):	75			75			75		
Sample Location:	Hallway out M.P.R. 1st Fl.			Classroom 109, 1st Fl			Classroom 201, 2nd Fl		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	1*	10*	9.1	-	-	-
Aspergillus/Penicillium	4	200	52.6	-	-	-	2	90	39.1
Basidiospores	3	100	26.3	3	100	90.9	3	100	43.5
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	1	40	17.4
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	1	40	10.5	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	1	40	10.5	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**9**	**380**	**100**	**4**	**110**	**100**	**6**	**230**	**100**
Hyphal Fragment	-	-	-	-	-	-	1	40	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
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: 12/22/2020 10:10 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: 192012376
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: Hyattsville M.S.

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/15/2020
Received Date: 12/15/2020
Analyzed Date: 12/21/2020

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

	192012376-0007			192012376-0008			192012376-0009		
Lab Sample Number:									
Client Sample ID:	121520-A7			121520-A8			121520-A9		
Volume (L):	75			75			75		
Sample Location:	Classroom 209, 2nd Fl			Classroom 309, 3rd Fl			Classroom 306, 3rd Fl		
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	-	-	-	-	-	-	-	-	-
Basidiospores	2	90	100	-	-	-	1	40	50
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	3*	40*	50
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**2**	**90**	**100**	**-**	**No Trace**	**-**	**4**	**80**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
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

Initial report from: 12/22/2020 10:10 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: 192012376
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: Hyattsville M.S.

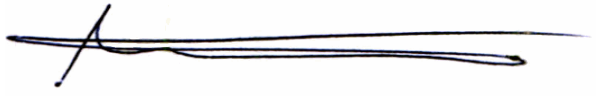
Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 12/15/2020
Received Date: 12/15/2020
Analyzed Date: 12/21/2020

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

Lab Sample Number:	**192012376-0010**			**192012376-0011**					
Client Sample ID:	**121520-A10**			**121520-A11**					
Volume (L):	**75**			**75**					
Sample Location:	**Temp. Classrm #4**			**B.G., Main entry to Bldg**					
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**			
Alternaria (Ulocladium)	-	-	-	-	-	-			
Ascospores	-	-	-	1*	10*	0.3			
Aspergillus/Penicillium	-	-	-	29	1300	36.8			
Basidiospores	-	-	-	50	2200	62.3			
Bipolaris++	-	-	-	-	-	-			
Chaetomium	-	-	-	-	-	-			
Cladosporium	-	-	-	1*	10*	0.3			
Curvularia	-	-	-	-	-	-			
Epicoccum	-	-	-	-	-	-			
Fusarium	-	-	-	-	-	-			
Ganoderma	-	-	-	-	-	-			
Myxomycetes++	-	-	-	1*	10*	0.3			
Pithomyces++	-	-	-	-	-	-			
Rust	-	-	-	-	-	-			
Scopulariopsis/Microascus	-	-	-	-	-	-			
Stachybotrys/Memnoniella	-	-	-	-	-	-			
Unidentifiable Spores	-	-	-	-	-	-			
Zygomycetes	-	-	-	-	-	-			
Total Fungi	**-**	**None Detected**	**-**	**82**	**3530**	**100**			
Hyphal Fragment	-	-	-	-	-	-			
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: 12/22/2020 10:10 AM

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

OrderID: 192012376

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*):

192012376

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:** 21075 **Country:** USA
Report To (Name): Skanda Abeyesekere	**Telephone #:** 410-540-8700
Email Address: skanda@tideh2o.net	**Fax #:** **Purchase Order:**
Project Name/Number: Hyattsville M.S	**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* 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: [redacted] Joel Kissoonlath **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
121520-A1	Media Ctr. off. 1st fl.	Air	M004	75 L.	12-15-20/ 1500
-A2	Gym, Basement				
-A3	Hallway out. Dance, Basement				
-A4	Hallway out - M.P.R, 1st fl.				
-A5	Class Room 109, 1st fl.				
-A6	Class Room 201, 2nd fl.				
-A7	Class Room 209, 2nd fl.				
-A8	Class Room 309, 3rd fl.				
-A9	Class Room 306, 3rd fl.				

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

Relinquished (Client): **Date:** **Time:**

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

Comments:

RECEIVED
EMSL ANALYTICAL, INC.
BELTSVILLE, MD
2020 DEC 15 P 3:57

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*):

192012376

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
121520-A10	Temp. Class-Rm #4	Air	M004	75 L.	12-15-20 / 1500
121520-A11	B.G. Main Entry to Bldg	↓	↓	↓	↓

****Comments/Special Instructions:**

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: 182100831
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: PGCPS Hyattsville Middle School

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date:
Received Date: 03/09/2021
Analyzed Date: 03/10/2021

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

	182100831-0001			182100831-0002		
Lab Sample Number:						
Client Sample ID:	030821-HMS-A1			030821-HMS-BG		
Volume (L):	75			75		
Sample Location:	Media Center Office			Outdoors (Background)		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-
Ascospores	-	-	-	1	40	80
Aspergillus/Penicillium	2	80	66.7	-	-	-
Basidiospores	-	-	-	-	-	-
Bipolaris++	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-
Cladosporium	1	40	33.3	-	-	-
Curvularia	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-
Myxomycetes++	-	-	-	1*	10*	20
Pithomyces++	-	-	-	-	-	-
Rust	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-
Total Fungi	**3**	**120**	**100**	**2**	**50**	**100**
Hyphal Fragment	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-
Pollen	-	-	-	2	80	-
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: 03/10/2021 02:13 PM

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

OrderID: 182100831

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*):

182100831

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 Hyattsville Middle School	**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	• **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 Panel	• **M133** MRSA Analysis
• **M007** Culturable Fungi	• **M018** Total Coliform (Membrane Filtration)	• **M028** *Cryptococcus neoformans* Detection
• **M008** Culturable Fungi (Speciation)	• **M020** Fecal *Streptococcus* (Membrane Filtration)	• **M120** *Histoplasma capsulatum* Detection
• **M009** Gram Stain Culturable Bacteria	• **M210-215** *Legionella* Detection	• **M033-39** Allergen Testing
• **M010** Bacterial Count and ID – 3 Most Prominent	• **M026** Recreational Water Screen	• **M044** Group Allergen (Cat, Dog, Cockroach, Dustmites)
• **M011** Bacterial Count and ID – 5 Most Prominent	• **M027** Mycotoxin Analysis	• **Other** See Analytical Price Guide
• **M013** Sewage Contamination in Buildings		

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
030821-HMS-A1	Media Center Office	Air	M032	75.0	03/08/21
030821-HMS-BG	Outdoors (Background)	Air	M032	75.0	03/08/21

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

Relinquished (Client): **Date:** 03/08/21 **Time:** 2:30pm

Received (Client): **Date:** 3.9.21 **Time:** 11:00

Comments:

EMSL Fedex (3rd)

784505941138

Remove quality seal before sampling Peel Here

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

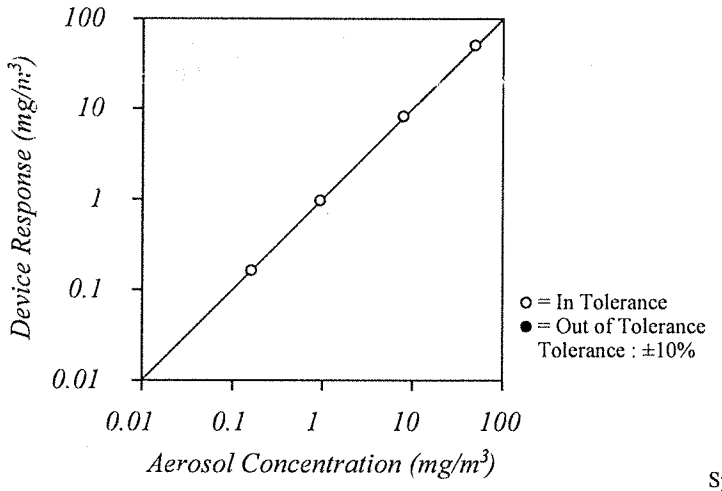
TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

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

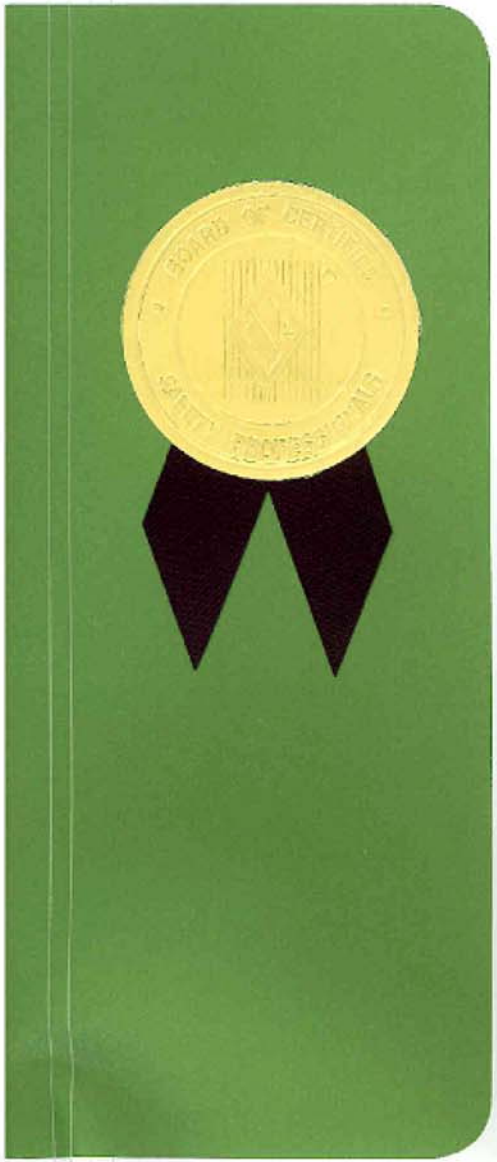
CERTIFIED INDUSTRIAL HYGIENIST

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

Fire Exit Plans

HYATTSVILLE MIDDLE SCHOOL