



July 2, 2019

Mr. Alex Baylor, Environmental Specialist  
Environmental Safety Office  
Prince Georges County Public Schools  
Division of Supporting Services / Building Services  
13306 Old Marlboro Pike  
Upper Marlboro, MD 20772

via email: [alex.baylor@pgcps.org](mailto:alex.baylor@pgcps.org)

**RE: Indoor Air Quality (IAQ) and Mold Assessment Services  
University Park Elementary School  
4315 Underwood Street, Hyattsville, MD 20782  
Tidewater Project No.: 5419-009**

Dear Mr. Baylor:

Tidewater, Inc. (Tidewater) is pleased to present this Indoor Air Quality (IAQ) and Mold Assessment Report describing the results of the IAQ assessment and mold survey conducted by Tidewater at University Park Elementary School located at 4315 Underwood Street in Hyattsville, Maryland. The IAQ and Mold survey was conducted on May 21, 2019, 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:

- Visual inspections of the following areas of the school: Cafeteria, Classroom 205, Library, Physical Education Room, Classroom B2, Classroom A4, Classroom 302, Classroom 303, Classroom 105 and Classroom 405 of University Park Elementary School 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.
- Comfort parameter air testing at the above areas utilizing a direct-reading IAQ monitor for temperature (T), relative humidity (RH), carbon monoxide (CO), and carbon dioxide (CO<sub>2</sub>.) Measurements were taken for comparison with guidelines established by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 62.1–2016, Ventilation for Acceptable Indoor Air Quality, and The United States Environmental Protection Agency (US EPA) National Ambient Air Quality Standards (NAAQS.)
- Measurement of particulate matter less than 10 microns (PM<sub>10</sub>) concentrations utilizing a direct-reading instrument at the above areas for comparison with guidelines established by the United States Environmental Protection Agency (US EPA.)
- Measurement of Total Volatile Organic Compounds (TVOCs) concentrations utilizing a direct-reading instrument at the above areas for comparison with relevant guidelines.
- Air sampling for total airborne fungal spore concentrations in the above areas using Allergenco-D cassettes affixed to a Buck BioAire™ Model B520 Bioaerosol Sampling Pump.



## **Visual Observations**

Tidewater's assessment included a visual inspection of representative areas of the school including the Cafeteria, Classroom 205, Library, Physical Education Room, Classroom B2, Classroom A4, Classroom 302, Classroom 303, Classroom 105, and Classroom 405 of University Park Elementary School. Photos of Site conditions are included in **Attachment C**. The results of Tidewater's visual inspection are as follows:

### **Cafeteria**

The Cafeteria was vacant at the time of the inspection. The supply and return air grills located in the ceiling contained excessive levels of dust. No signs of suspect mold growth or water-intrusion problems were observed in the Cafeteria. No unusual odors were detected from the Cafeteria. All trash receptacles were empty and general housekeeping appeared to be satisfactory.

### **Classroom 205**

Classroom 205 had around 16 students at the time of the inspection. The supply and return air grills located in the ceiling appeared to be clean. Housekeeping activities observed appeared to be adequate. No signs of suspect mold growth or water-intrusion problems, were observed. No unusual odors were detected.

### **Library**

The library was vacant at the time of the inspection. The wall-mounted return air grills and ceiling-mounted supply air grills appeared to be clean. Water-stained ceiling tiles were observed in several locations indicating water intrusion or condensation problems. General housekeeping appeared to be adequate. No signs of suspect mold growth were observed. No unusual odors were detected.

### **Physical Education Room**

The Physical Education Room had around 10 students at the time of the inspection. Multiple ceiling-mounted air diffusers were in operation. Tidewater observed that the wall-mounted return air grills and the ceiling-mounted supply air grills contained excessive levels of dust. Water-stained ceiling tiles were observed in several locations within the Physical Education Room. No signs of suspect mold growth were observed within the Physical Education Room. No unusual odors were detected.

### **Classroom B2**

Classroom B2 was vacant at the time of the inspection. All ceiling mounted air supply grills and return air grills appeared to be clean. General housekeeping within the classroom appeared to be deficient. Multiple water-stained ceiling tiles were observed within the classroom. No signs of suspect mold growth were observed within the Classroom. No unusual odors were detected within the classroom.

### **Classroom A4**

Classroom A4 was vacant at the time of the inspection. All ceiling-mounted air supply grills and return air grills appeared to be clean. The air conditioning unit was not in operation at the time of the inspection. General housekeeping within the classroom appeared to be deficient. No



signs of suspect mold growth or water-intrusion problems were observed within the room. No unusual odors were detected within the classroom.

**Classroom 302**

Classroom 302 was vacant at the time of the inspection. All ceiling-mounted air supply grills and return air grills appeared to be clean. The air conditioning unit was not in operation at the time of the inspection and general air flow was low. General housekeeping within the classroom appeared to be sufficient. No signs of suspect mold growth or water-intrusion problems were observed within the classroom. No unusual odors were detected within the classroom.

**Classroom 303**

Classroom 303 was vacant at the time of the inspection. All ceiling-mounted air supply grills and return air grills appeared to be clean. The air conditioning unit was in operation at the time of the inspection and general air flow was good. General housekeeping within the classroom appeared to be sufficient. No signs of suspect mold growth or water-intrusion problems were observed within the classroom. No unusual odors were detected within the classroom.

**Classroom 405**

Classroom 405 was vacant at the time of the inspection. All ceiling-mounted air supply grills and return air grills appeared to be clean. The air conditioning unit was in operation at the time of the inspection and the general air flow was good. General housekeeping within the classroom appeared to be sufficient. No signs of suspect mold growth or water-intrusion problems were observed within the classroom. No unusual odors were detected within the classroom.

**Classroom 105**

Classroom 105 was vacant at the time of the inspection. All ceiling-mounted air supply grills and return air grills appeared to be clean. The air conditioning unit was in operation at the time of the inspection and general air flow was good. General housekeeping within the classroom appeared to be sufficient. No signs of suspect mold growth or water-intrusion problems were observed within the classroom. No unusual odors were detected within the classroom.

**Comfort Parameter Air Testing**

During the assessment, Tidewater recorded temperature, relative humidity, carbon dioxide (CO<sub>2</sub>), and carbon monoxide (CO) measurements in the above-mentioned locations of University Park Elementary School using a TSI Q-Track Air Quality Meter (Model Number TSI Q-Track 7565, Serial Number 7565x0931002, Calibration Date: April 18, 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 guidelines established by the American Society for Heating Refrigeration and Air Conditioning (ASHRAE) Standard 62.1 – 2016, Ventilation for Acceptable Indoor Air Quality. A background sample was obtained in front of the main entrance to 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 – 2016, the temperature range in summer months should be maintained between 73.0°F and 79.0°F for maximum occupant comfort. The ASHRAE guideline for temperature for winter months is between 68.0°F and 74.5°F. The indoor temperature levels recorded in the assessed areas ranged between 71.0°F and 76.1°F, and the background temperature outside the building was 77.2°F. The temperature levels recorded within the majority of the common areas and classrooms were within the recommended range for the spring-summer transitional period.

Per the same guideline, a maximum recommended relative humidity level of 65.0% is recommended to reduce the likelihood of condensation on cold surfaces. Relative humidity levels recorded in the assessed areas ranged between 40.1% and 50.6%. The background relative humidity level outside the building was 36.1%. The relative humidity levels in all areas common areas and classrooms assessed were below the ASHRAE recommended maximum relative humidity level of 65.0%.

ASHRAE Standard 62.1 – 2016 recommends that indoor CO<sub>2</sub> concentrations not exceed 700 ppm above the outdoor background CO<sub>2</sub> level. The CO<sub>2</sub> levels recorded in the assessed areas ranged between 755 ppm to 2,100 ppm. The background CO<sub>2</sub> level outside the building was 334 ppm. The CO<sub>2</sub> levels in Classroom B2 and Classroom 302 exceeded 700 ppm above the outdoor background CO<sub>2</sub> level and indicates inadequate air exchanges within these classrooms. These areas are highlighted in Table 1, in **Attachment A**.

The CO concentrations recorded in all of the assessed areas were below the maximum guideline of 9 ppm recommended by the Indoor Air Quality Association (IAQA) for CO in occupied indoor environments.

### **Particulate Matter Less than 10 Microns (PM 10)**

Tidewater conducted air sampling for respirable dust particulates using a TSI® DUST TRAK DRX™ Aerosol Monitor (Serial Number 8534170101, Calibrated Date: March 1, 2019.) The TSI® DUST TRAK DRX™ Aerosol Monitor was equipped with a PM10 (10 µm) respirable impactor. 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 designated location and the average concentration was recorded. Samples were taken for comparison with guidelines established by the EPA NAAQS. Tidewater also obtained a background sample from outside 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 National Ambient Air Quality Standard (NAAQS) for Particulate Matter, Final Rule (January 15, 2013), 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<sup>3</sup>) or 0.150 milligrams per cubic meter of air (mg/m<sup>3</sup>.) The results of the PM10 analysis indicate that the average PM10 dust concentration recorded in all areas assessed ranged between 0.015 mg/m<sup>3</sup> and 0.144 mg/m<sup>3</sup>. The average PM10 dust concentration in the background sample obtained in front of the main entrance was 0.020 mg/m<sup>3</sup>.

The results of the PM10 monitoring indicate that the PM10 dust concentrations all areas assessed were below the EPA 24-hour primary and secondary NAAQS of 0.150 mg/m<sup>3</sup>.



### **Total Volatile Organic Compound (TVOC) Air Testing**

Tidewater obtained direct read measurements for Total Volatile Organic Compounds (TVOCs) using a Mini-RAE 2000 Hand Held VOC meter (Model Number MINIRAE 2000, Serial Number 110-010833, Calibration Date April 9, 2019.) 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 threshold limits recommended for typical indoor occupied environments.

A background sample was also obtained outdoors in front of the main entrance of the school building for comparison to the indoor readings. The results of the TVOC monitoring are provided in Table 3, in **Attachment A**.

There are no OSHA published guidelines for TVOCs. However, in general, the indoor air quality TVOC threshold for typical indoor occupied environments should not exceed 1,000 ppb (1.0 ppm) isobutylene units. The TVOC concentrations recorded in all assessed areas were below the recommended threshold level of 1.0 ppm.

### **Spore Trap Bioaerosol Sampling**

On May 21, 2019, Tidewater collected a total of 10 spore trap air samples using Allegenco-D cassettes to characterize potential airborne fungal spores within select areas of University Park Elementary School. A background sample was also collected outside the main entrance to the school building for comparison purposes.

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, Calibration Date: February 6, 2019) 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.

Once collected, the samples were transported to EMSL Analytical Laboratory (EMSL) located in Beltsville, Maryland for analysis. 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, airborne concentrations indoors should be less than that found in the outdoor air, with similar species composition. Indoor spore counts significantly greater than those detected 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 for the interior samples ranged between 330 and 2,240 spores per cubic meter (spores/m<sup>3</sup>.) The total mold spore concentration in the outdoors (background) sample was 13,330 spores/m<sup>3</sup>. The total mold spore concentrations in all interior locations sampled were significantly below the outdoors (background) total mold spore concentration.

Additionally, the individual fungal species concentrations observed in the interior samples were generally consistent with those observed in the background reference samples with no significant concentrations of an individual fungal species identified in the interior samples.

The summary of the results for the spore trap sampling are provided in Table 4 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**

Based on this IAQ and mold assessment survey, Tidewater offers the following conclusions:

- Tidewater's visual inspection did not reveal any evidence of standing water, active water intrusion or suspect mold growth on accessible walls, floors and ceilings in the assessed areas. However, numerous water-stained ceiling tiles were observed in the Library, Physical Education Room and Classroom B2.
- The supply air grills of the air conditioning units in the Cafeteria and Physical Education Room contained excessive levels of dust.
- General housekeeping in most classrooms appeared to be good;
- Temperature, CO, relative humidity, PM10, and TVOC readings recorded within the assessed areas were all within industry standards and guidelines.
- The CO<sub>2</sub> levels in Classroom B2 and Classroom 302 exceeded 700 ppm above the outdoor background CO<sub>2</sub> level of 334 ppm and indicates insufficient air exchanges.
- The mold spore concentrations in all interior locations sampled were significantly below the outdoors (background) total mold spore concentration. Additionally, the individual fungal species concentrations observed in the interior samples were generally consistent with those observed in the background reference samples.

### **Recommendations**

Based on the results of the assessment, Tidewater offers the following recommendations:

- Investigate above the water-stained ceiling tiles in the Library, Physical Education Room and Classroom B2 for any ongoing water leaks and surface mold formations. If any leaks are detected, repair them immediately. If surface mold contamination is observed, appropriate steps should be taken to remediate and sanitize the affected areas;
- Abate the water-stained ceiling tiles in the above areas. Ensure that the perimeters of the ceiling grids are cleaned with a 10% bleach solution to eliminate existing fungal spores prior to installing new ceiling tiles;
- Clean air supply grills and return air grills in the Physical Education Room and Cafeteria with a 10% bleach solution to eliminate observed dust.



- Ensure that all cleaning activities are conducted after hours when the above areas are vacant to minimize exposure to occupants.
- 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. Furthermore, all horizontal surfaces including desktops, furniture, window sills and suspended light fixtures should be cleaned on a routine basis to prevent the accumulations of dust.
- Ensure HVAC System supplying is properly balanced per design requirements and current use/occupancy in order to ensure adequate ventilation throughout the classrooms.
- Ensure the ventilation systems are turned on in all classrooms and are operating at all times when the classrooms are occupied to provide sufficient air flow and ventilation to the classrooms.
- Increase the air exchange rates to Classroom B2 and Classroom 302 in order to improve the air circulation within the classrooms. Consider running pedestal fans when the classrooms are fully occupied if the general air circulation is inadequate.

**Qualifications**

Tidewater has endeavored to investigate existing conditions in selected areas of University Park Elementary School located at 4315 Underwood Street in Hyattsville, Maryland as they pertain to indoor air quality. Our conclusions and recommendations are based on the 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, Total (Nuisance) Dust, TVOC and Non-Viable Spore Trap Sampling**  
**Attachment B – Laboratory Reports for Non-Viable Spore Trap Sampling**  
**Attachment C – Photographs of Site Conditions**  
**Attachment D – Calibration Certificates**  
**Attachment E – Qualifications**  
**Attachment F – Floor Plan with Sampling Locations**



**Attachment A**

**Summary of Comfort Parameters, Total (Nuisance) Dust,  
TVOC and Non-Viable Spore Trap Sampling**





<b>Table 1: Indoor Air Quality Comfort Parameters University Park Elementary School</b>				
<b>Location</b>	<b>Temperature (°F)</b>	<b>Relative Humidity (%)</b>	<b>Carbon Dioxide (ppm)</b>	<b>Carbon Monoxide (ppm)</b>
<b>May 21, 2019</b>				
Cafeteria	76.1	44.0	589	0.0
Classroom 205	71.9	48.4	865	0.0
Library	71.2	49.2	788	0.0
Physical Education Room	73.7	49.1	755	0.0
Classroom B2	74.1	43.0	<b>2,100</b>	0.0
Classroom A4	73.9	49.1	858	0.0
Classroom 302	73.2	50.1	<b>1,041</b>	0.0
Classroom 303	71.0	50.6	960	0.0
Classroom 105	76.0	40.1	849	0.0
Classroom 405	71.3	50.5	981	0.0
Background	77.2	36.1	334	0.0

- Numbers highlighted in red indicates locations in which carbon dioxide levels exceeded the guidelines recommended by the American Society for Heating Refrigeration and Air Conditioning (ASHRAE) Standard 62.1 – 2016.



<b>Table 2: Particulate Matter Less than 10 Microns (PM10) University Park Elementary School</b>	
<b>Location</b>	<b>Particulate Matter (PM10)</b>
	<b>Concentration (mg/m<sup>3</sup>)</b>
<b>May 21, 2019</b>	
Cafeteria	0.022
Classroom 205	0.029
Library	0.031
Physical Education Room	0.114
Classroom B2	0.057
Classroom A4	0.027
Classroom 302	0.105
Classroom 303	0.043
Classroom 105	0.015
Classroom 405	0.025
Background (Outdoors)	0.020



<b>Table 3: Total Volatile Organic Compounds (TVOCs) University Park Elementary School</b>	
<b>Location</b>	<b>Concentration (ppm)</b>
<b>May 21, 2019</b>	
Cafeteria	0.0
Classroom 205	0.0
Library	0.0
Physical Education Room	0.0
Classroom B2	0.0
Classroom A4	0.0
Classroom 302	0.0
Classroom 303	0.0
Classroom 105	0.0
Classroom 405	0.0
Background (Outdoors)	0.0



<b>Table 4: Spore Trap Sampling Results University Park Elementary School</b>			
<b>May 21, 2019</b>			
<b>Sample Number</b>	<b>Sample Location</b>	<b>Sample Volume (L)</b>	<b>Total Fungi Concentration (Counts/m<sup>3</sup>)</b>
UPES-1	Cafeteria	75.0	2,100
UPES-2	Classroom 205	75.0	1,180
UPES-3	Library	75.0	950
UPES-4	Physical Education Room	75.0	1,690
UPES-5	Classroom B2	75.0	1,550
UPES-6	Classroom A4	75.0	2,240
UPES-7	Classroom 302	75.0	710
UPES-8	Classroom 303	75.0	940
UPES-9	Classroom 405	75.0	580
UPES-10	Classroom 105	75.0	330
BG-1	Background (Outdoors)	75.0	13,330

- Highlighted Area indicates location where the concentrations of the indoor sample exceeded the level detected in the background sample.



**TIDEWATER** INC

ENGINEERS / SCIENTISTS / PROGRAM MANAGERS

## **Attachment B**

### **Laboratory Reports for Non-Viable Spore Trap Mold Sampling**



# EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514  
Phone/Fax: (516) 997-7251 / (516) 997-7528  
<http://www.EMSL.com> / [carleplacelab@emsl.com](mailto:carleplacelab@emsl.com)

Order ID: 061909650  
Customer ID: TIDE50  
Customer PO:  
Project ID:

**Attn:** Skanda Abeyeskere  
Tidewater, Inc.  
6625 Selnick Drive  
Suite A  
Elkridge, MD 21075

**Phone:** (410) 540-8700  
**Fax:** (410) 997-8713  
**Collected:** 05/21/2019  
**Received:** 05/21/2019  
**Analyzed:** 05/23/2019

**Proj:** PGCP5 5419-009 University Park ES

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

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	061909650-0001 UPES-1 75 Multipurpose Room			061909650-0002 UPES-2 75 Room 205			061909650-0003 UPES-3 75 Library		
Spore Types	Raw Count	Count/m <sup>3</sup>	% of Total	Raw Count	Count/m <sup>3</sup>	% of Total	Raw Count	Count/m <sup>3</sup>	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	2	90	4.3	3	100	8.5	2	90	9.5
Aspergillus/Penicillium	9	400	19	1	40	3.4	1	40	4.2
Basidiospores	32	1400	66.7	12	520	44.1	16	700	73.7
Bipolaris++	-	-	-	1	40	3.4	1*	10*	1.1
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	4	200	9.5	11	480	40.7	3	100	10.5
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	1*	10*	0.5	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Arthrospores	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia/Pestalotiopsis	-	-	-	-	-	-	-	-	-
Polythrincium	-	-	-	-	-	-	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Torula-like	-	-	-	-	-	-	-	-	-
Triadelphia	-	-	-	-	-	-	1*	10*	1.1
<b>Total Fungi</b>	<b>48</b>	<b>2100</b>	<b>100</b>	<b>28</b>	<b>1180</b>	<b>100</b>	<b>24</b>	<b>950</b>	<b>100</b>
Hyphal Fragment	-	-	-	2	90	-	1	40	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	1	40	-	1	40	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	2	-	-	2	-	-	2	-
Background (1-5)	-	2	-	-	2	-	-	2	-

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

Jeffrey Lau, Microbiology Laboratory Manager  
or Other Approved Signatory

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

Samples received in good condition unless otherwise noted. 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. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The report reflects the samples as received. When the information supplied by the customer can affect the validity of the result, it will be noted on the report.

Initial report from: 05/24/2019 13:19:30

For Information on the fungi listed in this report please visit the Resources section at [www.emsl.com](http://www.emsl.com)



# EMSL Analytical, Inc.

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 Phone/Fax: (516) 997-7251 / (516) 997-7528  
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Order ID: 061909650  
 Customer ID: TIDE50  
 Customer PO:  
 Project ID:

**Attn:** Skanda Abeyeskere  
 Tidewater, Inc.  
 6625 Selnick Drive  
 Suite A  
 Elkridge, MD 21075

**Phone:** (410) 540-8700  
**Fax:** (410) 997-8713  
**Collected:** 05/21/2019  
**Received:** 05/21/2019  
**Analyzed:** 05/23/2019

**Proj:** PGCP5 5419-009 University Park ES

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

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	061909650-0004 UPES-4 75 Gymnasium			061909650-0005 UPES-5 75 Classroom B2			061909650-0006 UPES-6 75 Room A4		
Spore Types	Raw Count	Count/m <sup>3</sup>	% of Total	Raw Count	Count/m <sup>3</sup>	% of Total	Raw Count	Count/m <sup>3</sup>	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	8	300	17.8	9	400	25.8	9	400	17.9
Aspergillus/Penicillium	8	300	17.8	2	90	5.8	3	100	4.5
Basidiospores	11	480	28.4	21	920	59.4	39	1700	75.9
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	6	300	17.8	3	100	6.5	1	40	1.8
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	1*	10*	0.6	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	6*	80*	4.7	1	40	2.6	-	-	-
Pithomyces++	1*	10*	0.6	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Arthrospores	4	200	11.8	-	-	-	-	-	-
Nigrospora	1*	10*	0.6	-	-	-	-	-	-
Pestalotia/Pestalotiopsis	-	-	-	-	-	-	-	-	-
Polythrincium	-	-	-	-	-	-	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Torula-like	-	-	-	-	-	-	-	-	-
Triadelphia	-	-	-	-	-	-	-	-	-
<b>Total Fungi</b>	<b>46</b>	<b>1690</b>	<b>100</b>	<b>36</b>	<b>1550</b>	<b>100</b>	<b>52</b>	<b>2240</b>	<b>100</b>
Hyphal Fragment	3	100	-	1	40	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	3	100	-	1	40	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	4	-	-	3	-	-	2	-
Fibrous Particulate (1-4)	-	3	-	-	3	-	-	2	-
Background (1-5)	-	3	-	-	3	-	-	2	-

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

Jeffrey Lau, Microbiology Laboratory Manager  
 or Other Approved Signatory

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

Samples received in good condition unless otherwise noted. 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. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The report reflects the samples as received. When the information supplied by the customer can affect the validity of the result, it will be noted on the report.

Initial report from: 05/24/2019 13:19:30

For Information on the fungi listed in this report please visit the Resources section at [www.emsl.com](http://www.emsl.com)



# EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514  
 Phone/Fax: (516) 997-7251 / (516) 997-7528  
<http://www.EMSL.com> / [carleplacelab@emsl.com](mailto:carleplacelab@emsl.com)

Order ID: 061909650  
 Customer ID: TIDE50  
 Customer PO:  
 Project ID:

**Attn:** Skanda Abeyeskere  
 Tidewater, Inc.  
 6625 Selnick Drive  
 Suite A  
 Elkridge, MD 21075

**Phone:** (410) 540-8700  
**Fax:** (410) 997-8713  
**Collected:** 05/21/2019  
**Received:** 05/21/2019  
**Analyzed:** 05/23/2019

**Proj:** PGCP5 5419-009 University Park ES

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

Lab Sample Number: Client Sample ID: Volume (L): Sample Location:	061909650-0007 UPES-7 75 Room 302 (Sr Broken)			061909650-0008 UPES-8 75 Room 303			061909650-0009 UPES-9 75 Room 405		
Spore Types	Raw Count	Count/m <sup>3</sup>	% of Total	Raw Count	Count/m <sup>3</sup>	% of Total	Raw Count	Count/m <sup>3</sup>	% of Total
Alternaria (Ulocladium)	2*	30*	4.2	-	-	-	-	-	-
Ascospores	-	-	-	2	90	9.6	1	40	6.9
Aspergillus/Penicillium	6	300	42.3	3	100	10.6	1	40	6.9
Basidiospores	3	100	14.1	10	440	46.8	8	300	51.7
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	4	200	28.2	8	300	31.9	4	200	34.5
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	1*	10*	1.1	-	-	-
Pithomyces++	1*	10*	1.4	-	-	-	-	-	-
Rust	2*	30*	4.2	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Arthrospores	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Pestalotia/Pestalotiopsis	-	-	-	-	-	-	-	-	-
Polythrincium	-	-	-	-	-	-	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Torula-like	-	-	-	-	-	-	-	-	-
Triadelphia	1	40	5.6	-	-	-	-	-	-
<b>Total Fungi</b>	<b>19</b>	<b>710</b>	<b>100</b>	<b>24</b>	<b>940</b>	<b>100</b>	<b>14</b>	<b>580</b>	<b>100</b>
Hyphal Fragment	5	200	-	1	40	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	4	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	4	-	-	2	-	-	1	-
Background (1-5)	-	4	-	-	2	-	-	2	-

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

Jeffrey Lau, Microbiology Laboratory Manager  
 or Other Approved Signatory

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

Samples received in good condition unless otherwise noted. 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. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. The report reflects the samples as received. When the information supplied by the customer can affect the validity of the result, it will be noted on the report.

Initial report from: 05/24/2019 13:19:30

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# EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514  
Phone/Fax: (516) 997-7251 / (516) 997-7528  
<http://www.EMSL.com> / [carleplacelab@emsl.com](mailto:carleplacelab@emsl.com)

Order ID: 061909650  
Customer ID: TIDE50  
Customer PO:  
Project ID:

**Attn:** Skanda Abeyeskere  
Tidewater, Inc.  
6625 Selnick Drive  
Suite A  
Elkridge, MD 21075

**Phone:** (410) 540-8700  
**Fax:** (410) 997-8713  
**Collected:** 05/21/2019  
**Received:** 05/21/2019  
**Analyzed:** 05/23/2019

**Proj:** PGCP5 5419-009 University Park ES

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

Lab Sample Number:	061909650-0010			061909650-0011		
Client Sample ID:	UPES-10			BG-1		
Volume (L):	75			75		
Sample Location:	Room 105 (Sra Tayler)			Outdoors		
Spore Types	Raw Count	Count/m <sup>3</sup>	% of Total	Raw Count	Count/m <sup>3</sup>	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-
Ascospores	2	90	27.3	61	2700	20.3
Aspergillus/Penicillium	3	100	30.3	7	300	2.3
Basidiospores	3	100	30.3	145	6330	47.5
Bipolaris++	-	-	-	1*	10*	0.1
Chaetomium	-	-	-	-	-	-
Cladosporium	1	40	12.1	87	3800	28.5
Curvularia	-	-	-	-	-	-
Epicoccum	-	-	-	2*	30*	0.2
Fusarium	-	-	-	-	-	-
Ganoderma	-	-	-	1	40	0.3
Myxomycetes++	-	-	-	1	40	0.3
Pithomyces++	-	-	-	1*	10*	0.1
Rust	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-
Arthrospores	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-
Pestalotia/Pestalotiopsis	-	-	-	1*	10*	0.1
Polythrincium	-	-	-	1*	10*	0.1
Tetraploa	-	-	-	1*	10*	0.1
Torula-like	-	-	-	3*	40*	0.3
Triadelphia	-	-	-	-	-	-
<b>Total Fungi</b>	<b>9</b>	<b>330</b>	<b>100</b>	<b>312</b>	<b>13330</b>	<b>100</b>
Hyphal Fragment	1	40	-	3	100	-
Insect Fragment	-	-	-	-	-	-
Pollen	2*	30*	-	9	400	-
Analyt. Sensitivity 600x	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	1	-
Fibrous Particulate (1-4)	-	2	-	-	1	-
Background (1-5)	-	2	-	-	2	-

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

Jeffrey Lau, Microbiology Laboratory Manager  
or Other Approved Signatory

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

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Initial report from: 05/24/2019 13:19:30

For Information on the fungi listed in this report please visit the Resources section at [www.emsl.com](http://www.emsl.com)

# Microbiology Chain of Custody

## EMSL Order Number (Lab Use Only):

061909650

PHONE:  
FAX:

Company: Tidewater Inc.		EMSL-Bill to: <input type="checkbox"/> Different <input type="checkbox"/> Same <small>If Bill to is Different note instructions in Comments**</small>	
Street: 6625 Slenick Drive, Suite A		<i>Third Party Billing requires written authorization from third party</i>	
City: Elkridge	State/Province: Maryland	Zip/Postal Code:	Country:
Report To (Name): Skanda Abeyesekere		Telephone #:	
Email Address: skanda@tideh2o.net		Fax #:	Purchase Order:
Project Name/Number: PGCPs 5419-009		Please Provide Results: <input type="checkbox"/> FAX <input type="checkbox"/> E-mail <input type="checkbox"/> Mail	
U.S. State Samples Taken: MD University Park ES		Connecticut Samples: <input type="checkbox"/> Commercial <input type="checkbox"/> 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 Cyclcx	• M002 Cyclcx-d	
• M030 Micro 5	• M174 MoldSnap	• M176 Relle Smart	• M130 Via-Cell	

**Other Microbiology Test Codes**

<ul style="list-style-type: none"> <li>• M041 Fungal Direct Examination</li> <li>• M005 Viable Fungi ID and Count</li> <li>• M006 Viable Fungi ID and Count (Speciation)</li> <li>• M007 Culturable Fungi</li> <li>• M008 Culturable Fungi (Speciation)</li> <li>• M009 Gram Stain Culturable Bacteria</li> <li>• M010 Bacterial Count and ID – 3 Most Prominent</li> <li>• M011 Bacterial Count and ID – 5 Most Prominent</li> <li>• M013 Sewage Contamination in Buildings</li> </ul>	<ul style="list-style-type: none"> <li>• M014 Endotoxin Analysis</li> <li>• M015 Heterotrophic Plate Count</li> <li>• M180 Real Time Q-PCR-ERMI 36 Panel</li> <li>• M018 Total Coliform (Membrane Filtration)</li> <li>• M020 Fecal Streptococcus (Membrane Filtration)</li> <li>• M210-215 Legionella Detection</li> <li>• M026 Recreational Water Screen</li> <li>• M027 Mycotoxin Analysis</li> </ul>	<ul style="list-style-type: none"> <li>• M029 Enterococci</li> <li>• M019 Fecal Coliform</li> <li>• M133 MRSA Analysis</li> <li>• M028 <i>Cryptococcus neoformans</i> Detection</li> <li>• M120 <i>Histoplasma capsulatum</i> Detection</li> <li>• M033-39 Allergen Testing</li> <li>• M044 Group Allergen (Cat, Dog, Cockroach, Dustmites)</li> <li>• Other See Analytical Price Guide</li> </ul>
---	--	--

Preservation Method (Water):

Name of Sampler: SKANDA ABESSEKERE      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
UPES-1	Multi Purpose room	Air	M032 (M)	75.0	05/21/2019
UPES-2	Room 205				
UPES-3	Library				
UPES-4	Gymnasium				
UPES-5	Classroom B2				
UPES-6	Room A4				
UPES-7	Room 302 (Sr Bruner)				
UPES-8	Room 303				
UPES-9	Room 405				

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

Relinquished (Client): *Skanda Abeyesekere*      Date: 05/21/19      Time: ~~11:26 AM~~

Received (Client): *Thomas Walker*      Date: 5/21/19      Time: 9:15 AM

Comments:

*\* Client paid 18 hours on June 5/21/19 11:26 AM*      *5/23/19*





**TIDEWATER** INC

**ENGINEERS / SCIENTISTS / PROGRAM MANAGERS**

## **Attachment C**

### **Photographs of Site Conditions**

**PHOTO LOG**

University Park Elementary School  
4315 Underwood Street  
Hyattsville, Maryland 20782



**Photo 1:** Cafeteria – Return air grills contain excessive levels of dust.



**Photo 2:** Cafeteria

**PHOTO LOG**  
University Park Elementary School  
4315 Underwood Street  
Hyattsville, Maryland 20782



**Photo 3:** Classroom 205 – Clean with good housekeeping practices.



**Photo 4:** Classroom 205 – Ceiling-mounted Air Supply Grills clean.

**PHOTO LOG**

University Park Elementary School  
4315 Underwood Street  
Hyattsville, Maryland 20782



**Photo 5:** Library – Water-stained ceiling tiles.



**Photo 6:** Library – Water-stained ceiling tiles.

**PHOTO LOG**

University Park Elementary School  
4315 Underwood Street  
Hyattsville, Maryland 20782



**Photo 7:** Physical Education Room – Air supply grills on wall contain excessive levels of dust.



**Photo 8:** Physical Education Room – Air supply grills on ceiling contain excessive levels of dust.



**PHOTO LOG**

University Park Elementary School  
4315 Underwood Street  
Hyattsville, Maryland 20782



**Photo 9:** Physical Education Room – Water-stained ceiling tiles.



**Photo 10:** Classroom B2 – Water-stained ceiling tiles.

**PHOTO LOG**

University Park Elementary School  
4315 Underwood Street  
Hyattsville, Maryland 20782



**Photo 11:** Classroom B2 – Water-stained ceiling tiles.



**Photo 12:** Classroom 302 – Clean air supply grills on ceiling.



**TIDEWATER** INC

ENGINEERS / SCIENTISTS / PROGRAM MANAGERS

**Attachment D**  
**Calibration Certificates**



### IAQ Meter Calibration Certificate

	Lot #	Expiration
<b>Cal Standard</b>	18-6508	4/18/2020

Carbon Monoxide Gas	Reading ppm	Acceptable Range
35 ppm ▼	35.0	(32 - 38) ▼

Carbon Dioxide Gas	Reading ppm	Acceptable Range
1000 ppm ▼	1008.0	(950 - 1050) ▼

<b>Model</b>	TSI Q-Trak 7565 ▼
<b>S/N</b>	7565x0931002
<b>Barcode</b>	u59038x
<b>Order #</b>	398188

Calibrated By Bryce Spontak ▼

Date of Calibration 05/16/19

All calibrations performed by FEI conform to manufacturer's specifications. Please report any issues within 24 hours of receiving equipment.

All calibration gas used is traceable to NIST. Additional documentation is available upon request.

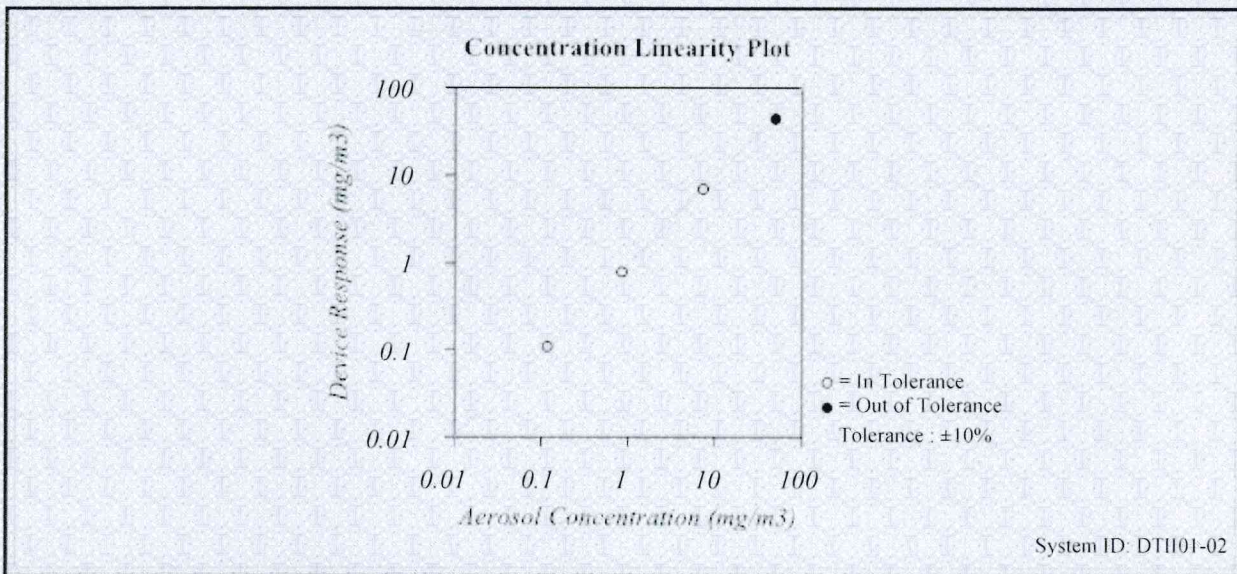


# CERTIFICATE OF CALIBRATION AND TESTING

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			Model	<b>8534</b>
Temperature	76.6 (24.8)	°F (°C)	Serial Number	<b>8534170101</b>
Relative Humidity	24	%RH		
Barometric Pressure	29.14 (986.8)	inHg (hPa)		

<input type="checkbox"/> As Left	<input type="checkbox"/> In Tolerance
<input checked="" type="checkbox"/> As Found	<input checked="" type="checkbox"/> Out of Tolerance



FLOW AND PRESSURE VERIFICATION				SYSTEM DTII01-02			
Parameter	Standard	Measured	Allowable Range	Parameter	Standard	Measured	Allowable Range
Flow lpm	3.0	3.0	2.85 ~ 3.15	Pressure kPa	98.6	98.6	93.71 ~ 103.57

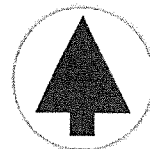
Pump run time: 25 Hours, Pump voltage: 433 Bits

*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	Measurement Variable	System ID	Last Cal.	Cal. Due
Temp/Humidity	E005409	10-19-17	10-31-18	Temp/Humidity	E005410	10-19-17	10-31-18
DC Voltage	E003314	05-03-17	05-31-18	DC Voltage	E003315	05-03-17	05-31-18
Photometer	E003319	01-09-18	07-31-18	Microbalance	M001324	11-02-16	11-30-18
1 um PSL	679755	n/a	n/a	3 um PSL	180387	n/a	n/a
10 um PSL	167947	n/a	n/a	Pressure	E003511	10-02-17	10-31-18
Flowmeter	E002471	04-20-17	04-30-18				

*Tommy*  
 \_\_\_\_\_  
 Verified

March 1, 2018  
 \_\_\_\_\_  
 Date



# INSTRUMENT CALIBRATION REPORT

Pine Environmental Services, LLC.

## Tidewater MD

**Instrument ID** 110-010833  
**Description** MINIRAE 2000  
**Calibrated** 4/9/2019

**Manufacturer** Rae Systems  
**Model Number** MINIRAE 2000  
**Serial Number** 110-010833  
**Location** Maryland  
**Department** CATHY MOORE

**Frequency** 6 Months  
**Status** Pass  
**Temp** 24  
**Humidity** 39

### Calibration Specifications

**Group #** 1  
**Group Name** ISOBUTYLENE  
**Stated Accy** Pct of Reading

**Range Acc %** 0.0000  
**Reading Acc %** 3.0000  
**Plus/Minus** 0.00

<u>Nom In Val / In Val</u>	<u>In Type</u>	<u>Out Val</u>	<u>Out Type</u>	<u>Fnd As</u>	<u>Lft As</u>	<u>Dev%</u>	<u>Pass/Fail</u>
100.00 / 100.00	ppm	100.00	ppm	92.80	101.00	1.00%	Pass

### Test Instruments Used During the Calibration

(As Of Cal Entry Date)

<u>Test Instrument ID</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Number / Lot Number</u>	<u>Last Cal Date</u>	<u>Next Cal Date / Expiration Date</u>
MD ISO 100PPM FBI-248-100-12	MD ISO 100PPM	Pine Environmental Services, Inc.		34LS-248-100	5/23/2022	
MD ZERO AIR FBI-1-25	ZERO AIR Oxygen 20.9%VOL, Nitrogen Balance	Pine Environmental Services, Inc.	31844	FBI-1-25		

### Notes about this calibration

**Calibration Result** Calibration Successful  
**Who Calibrated** Ryan Armstrong

Pine Environmental Services, LLC. hereby certifies that this instrument is calibrated and functions to meet the manufacturer's specifications using NIST traceable standards, or is derived from accepted values of physical constants.

# Certificate of Conformance

Buck BioAire™

Buck BioSlide™

Serial number: B153043 Date Issued: 2-6-19

## 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. Greenover

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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.

COCR-004 REV-01 3/3/2006



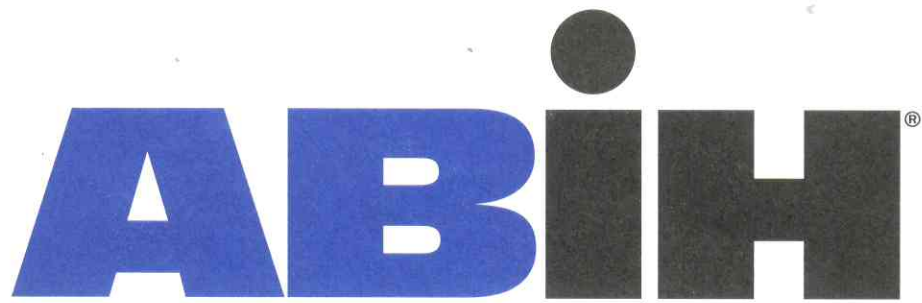
**TIDEWATER** INC

**ENGINEERS / SCIENTISTS / PROGRAM MANAGERS**

**Attachment E**

**Qualifications**





**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**

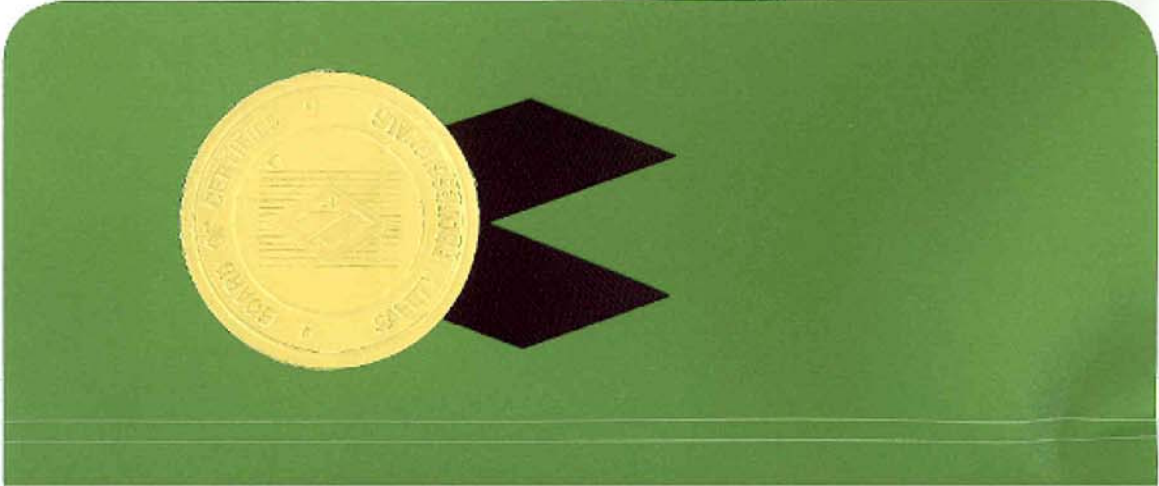
**CIH**

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



*Susan Ripple*  
Chair, ABIH

*William K. Oliver*  
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



<i>Paul S Adams</i>	President
<i>Linda Japp</i>	Secretary
20110	CSP No.



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**



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.



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





**TIDEWATER** INC

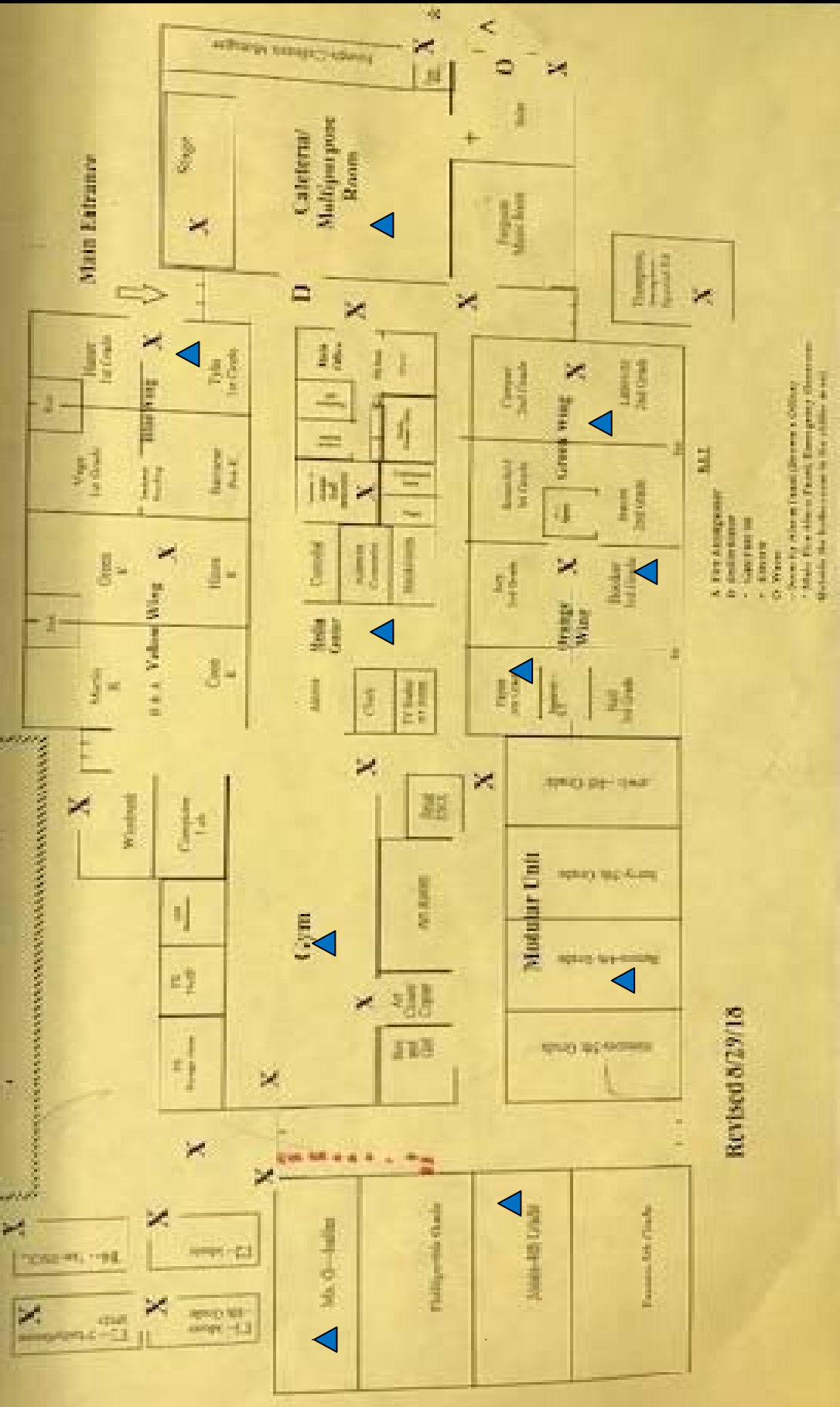
ENGINEERS / SCIENTISTS / PROGRAM MANAGERS

## **Attachment F**

### **Floor Plan with Sampling Locations**

# University Park Elementary School

Blue lines with Dots are Exit and Refuge Area



	<p>Attachment C University Park Elementary School Floor Plan with Sampling Locations</p>	<p>Scale: N/A</p> <p>Project #: 5419-009 Date: May 21, 2019</p>	<p>General Notes</p> <p>▲ Sample Location</p>
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