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 – Gladys N. Spellman Elementary School
3324 64th Avenue, Cheverly, Maryland 20785
Contract No.: IFB 022-19: Indoor Air Quality Services at Various Locations
Tidewater Project No.: 5419-030

Dear Mr. Baylor:

Tidewater, Inc. (Tidewater) is pleased to present this Indoor Air Quality (IAQ) and Mold Assessment Services preliminary report describing the results of the IAQ assessment and mold survey conducted by Tidewater at Gladys Noon Spellman Elementary School located at 3324 64th Avenue, Cheverly, Maryland. The IAQ and Mold survey was conducted on November 19, 2020, by Tidewater's Project Manager and Certified Industrial Hygienist, Mr. Skanda Abeyesekere MS, CIH, CSP, CHMM. Re-sampling of areas with elevated mold concentrations were conducted on February 26, 2021 and March 5, 2021.

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

- Visual inspections of the following select areas of the school: Main Office, Media Center (Library), Kindergarten Classrooms 3&4, Multipurpose Room, Classroom 112, Classroom 105, Classroom 205, Classroom 210, Computer Laboratory and Teacher's Lounge 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;
- Direct read measurements for temperature (T), relative humidity (RH), carbon dioxide (CO_2), and carbon monoxide (CO) in the above locations 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);
- Direct read measurements for Particulate Matter less than 10 microns (PM10) in the above locations for comparison with standards established by the US EPA NAAQS Final Rule (December 7, 2020); and
- Air sampling for microbial spores in the above locations for total airborne fungal spore analysis.

Visual Observation

Due to the on-going COVID-19 pandemic, the school building was occupied by limited number of staff and no students were present at the time of the survey. As a result, the majority of the classrooms and other common areas inspected were vacant at the time of the inspection. Tidewater's assessment included a visual inspection of the following select areas of Gladys Noon Spellman Elementary School. The results of Tidewater's visual inspection are as follows:

Main Office

The Main Office appeared to be clean and well maintained. Housekeeping appeared to be satisfactory. No signs of ongoing water-intrusion problems were observed and no odors were detected. All ceiling-mounted air supply vents appeared to be clean.

Media Center (Library)

Multiple wall-mounted fan coil units were in operation and were emitting warm air at the time of the inspection. As a result, the temperature in the Media Center was high. All ceiling-mounted air supply vents appeared to be clean. A water-stained ceiling tile with visible surface mold formations was observed in the rear end of the Media Center above the fan coil unit. No odors were detected within the Media Center. The Media Center appeared to be well maintained and organized.

Kindergarten Classrooms 3 and 4

No signs of mold growth or past or ongoing water-intrusion problems were observed in Kindergarten Classrooms 3 & 4. Furthermore, no notable odors were detected. The classrooms appeared to be clean and well maintained. Housekeeping appeared to be satisfactory. The ceiling-mounted air supply vents appeared to be clean.

Multipurpose Room

Nine (9) ceiling-mounted exhaust fans were in operation at the time of the inspection. A few ceiling-mounted air supply grills contained rust buildup. No signs of ongoing water-intrusion problems or signs of mold visible growth were observed in the multipurpose room. Furthermore, no odors were detected. A few ceiling tiles above the stage appeared to be dismantled. Eight (8) wall-mounted supply air intakes were located around the walls of the multi-purpose room and appeared to be clean.

Classroom 112

The classrooms appeared to be clean and well maintained. Housekeeping appeared to be satisfactory. The ceiling-mounted supply air vents and wall-mounted return air grills appeared to be clean. The wall-mounted fan coil unit had boxes placed on top of the air supply vents hindering air flow when the unit is in operation. No signs of ongoing water-intrusion problems were observed in the classroom and no odors were detected.

Classroom 105

A wall-mounted fan coil unit was in operation and was emitting warm air at the time of the inspection. Multiple water-stained ceiling tiles were observed in the classroom. The classrooms appeared to be clean and well maintained. Housekeeping appeared to be satisfactory. No odors were detected. The wall-mounted air supply intakes appeared to be clean.

Classroom 205

A wall-mounted fan coil unit was observed in the classroom. This unit was not in operation at the time of the inspection. The ceiling-mounted air supply vents appeared to be clean. The wall-mounted air supply grills also appeared to be clean. Multiple water-stained ceiling tiles were observed in the classroom. No odors were detected.

Classroom 210

Two (2) wall-mounted fan coil units were observed in the classroom. These units were in operation and were emitting warm air at the time of the inspection. Several windows in the classroom appeared to be left opened. The ceiling-mounted air supply vents appeared to be clean. The wall-mounted air supply grills also appeared to be clean. No signs of ongoing water-intrusion problems were observed. Furthermore, no odors were detected.

Computer Laboratory

The fan coil unit was not in operation at the time of the inspection. Two (2) ceiling tiles with minor water stains were observed in the computer laboratory. The wall-mounted air supply grills appeared to be clean and general housekeeping appeared to be satisfactory. No notable odors were detected.

Teacher's Lounge

A wall-mounted fan coil unit was observed in the Teacher's Lounge. This unit was not in operation at the time of the inspection. The ceiling-mounted air supply vents appeared to be clean. The wall-mounted air supply grills also appeared to be clean. No signs of mold growth or past or ongoing water-intrusion problems were observed in the Lounge. General housekeeping appeared to be satisfactory.

Comfort Parameter Air Testing

During the assessment, Tidewater obtained temperature (T), relative humidity (RH), carbon dioxide (CO_2), and carbon monoxide (CO) measurements within select locations of the school 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. Measurements were obtained 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.)

Tidewater also obtained a background sample outdoors in front of the main entrance of the school building for comparison to the interior readings. The results of the IAQ comfort parameter monitoring are provided in Table 1, in **Attachment A.**

According to the American Society for Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 62.1 – 2019, *Ventilation for Acceptable Indoor Air Quality,* the temperature range in summer months should be maintained between 73.0°F and 79.0°F for maximum occupant comfort. The ASHRAE standard for temperature for winter months is between 68.0°F

and 74.5°F. The indoor temperature levels within the assessed areas on November 19, 2020 ranged between 68.6°F and 78.3°F, and the background temperature outside the building was 56.9°F. The temperature levels recorded within most areas assessed were within temperature levels typically observed during the fall-winter transitional period. The temperature levels recorded within the media center was above the ASHRAE upper temperature standard of 74.5°F recommended for winter months. All areas were vacant at the time of the inspection. Indoor temperature levels tend to fluctuate throughout the work day based on the number of occupants present within the individual work spaces. The temperature level in the media center should be lowered by adjusting the thermostats of the fan coil units to maintain ASHRAE standards.

Per the same ASHRAE standard, a maximum recommended 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 November 19, 2020 ranged between 21.1% and 34.1%. The background relative humidity level outside the building was 26.8%. The relative humidity levels in all areas assessed were below the ASHRAE recommended maximum relative humidity standard of 65.0%.

ASHRAE Standard 62.1 – 2019 recommends that indoor CO_2 levels not exceed 700 ppm above the outdoor background CO_2 level. The CO_2 levels in the assessed areas on November 19, 2020 ranged between 460 ppm to 523 ppm. The background CO_2 level outside the building was 440 ppm. The CO_2 levels within all interior locations assessed did not exceed 700 ppm above the outdoor background CO_2 level of 440 ppm.

The CO levels in all areas assessed on November 19, 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 of the school 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 Rule (December 7, 2020.)

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

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

Based on the EPA NAAQS for Particulate Matter, Final Rule (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 0.070 mg/m^3 and 0.078 mg/m^3. The average PM10 dust concentration in the background sample obtained in front of the main entrance was 0.096 mg/m^3. The PM10 concentrations 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 a background sample outdoors in front of the main entrance of the school building for comparison to the interior readings.

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

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

The total mold spore counts in all assessed areas of the school ranged between 390 spores/m^3 and 34,840 spores/m^3. The mold spore concentrations in the background sample obtained outdoors was 1,410 spores/m^3. The total mold spore concentrations in indoor samples obtained from Classroom 105 (sample # GNSES-6), Classroom 205 (sample # GNES-7), and the Computer Laboratory (sample # GNPES-9) exceeded the total mold spore concentration detected in the background sample (sample # GNEPS-BG.) The total mold spore concentrations in samples #GNSES-6 and #GNPES-9 were marginally higher than the total mold spore concentration in the background sample. Furthermore, the species composition of these samples were somewhat similar to the species composition of the background sample.

However, the total mold spore concentration in Classroom 205 (sample # GNSES-7) was significantly (over 24 times) higher than the total mold spore concentration detected in the background sample. Furthermore, the concentration of *Aspergillus/ Penicillium* spores detected in Classroom 205 (sample # GNSES-7) was 34,300 spores/m^3 compared with a concentration of 200 spores/m^3 of A*spergillus/ Penicillium* spores detected in the background sample (GNES-BG.) The significantly high concentration of *Aspergillus/ Penicillium* species detected in sample # GNSES-7 indicates the presence of potential indoor sources of mold in Classroom 205.

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 areas with elevated mold spore concentrations were re-sampled on February 25, 2021 and March 5, 2021 following cleanup activities. The results indicated that the total mold spore concentrations in all interior locations re-sampled were below the background concentration. The results did not indicate elevated levels of airborne total fungal spores in the interior locations re-sampled.

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

CONCLUSIONS

- During the visual inspections conducted within select areas of the school, the follow issues were identified:
  - A water-stained ceiling tile with surface mold formations was observed in the rear end of the Media Center above a fan coil unit.
  - Numerous ceiling-mounted supply air grills with rust buildup were observed in the multipurpose room. Furthermore, a number of dismantled ceiling tiles were also observed above the stage area in the multipurpose room.
  - Numerous water-stained ceiling tiles were observed in the classrooms 105 and 205.
  - Two (2) ceiling tiles with minor-water stains were observed in the computer laboratory.
- Temperature levels recorded within all interior locations assessed, except within the media center were within the temperature levels typically observed during the fall-winter transitional period. The temperature level in the media center was above the ASHRAE upper temperature standard of 74.5°F 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 below the background sample concentration and were also consistent with those observed in the background sample. The results do not indicate elevated levels of airborne total fungal spores in the interior locations sampled.

RECOMMENDATIONS

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

- Investigate above the water-stained ceiling tiles in the Media Center, Classroom 105, Classroom 205, and the computer laboratory for any ongoing water leaks and suspect surface mold formations. If any leaks are detected, repair them immediately. If suspect surface mold contamination is observed, appropriate steps should be taken to remediate and sanitize the affected area. Remove all water-stained ceiling tiles and clean the

perimeter of the ceiling grids with a commercially available (EPA approved) fungicide to mitigate existing fungal spores prior to installing new ceiling tiles in these areas;

- Clean the ceiling-mounted air supply grills in the Multipurpose Room with a commercially available (EPA approved) rust remover to remove rust buildup from the supply grills;
- Adjust all dismantled ceiling tiles above the stage area of the multi-purpose room to ensure that they are placed snugly into the ceiling grids.
- 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. Furthermore, all horizontal surfaces including desktops, furniture, window sills should be cleaned on a routine basis to prevent the accumulation of dust;
- 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 before the school re-opens. Adjust the thermostats of the fan coil units in the media center to maintain a temperature level between 68°F and 74.5°F recommended by ASHRAE for winter months.

Qualifications

Tidewater has endeavored to investigate existing conditions in select areas of Gladys N. Spellman Elementary School located at 3817, 64th Avenue, Cheverly, Maryland as they pertain to indoor air quality and mold contamination. 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, CES, CEI
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 Gladys Noon Spellman Elementary School				
Location	**Temperature (°F)**	**Carbon Dioxide (ppm)**	**Relative Humidity (%)**	**Carbon Monoxide (ppm)**
November 19, 2020				
Main Office	71.7	34.1	523	0.0
Media Center	**78.3**	30.4	502	0.0
Kindergarten Classroom 3 & 4	69.8	24.0	482	0.0
Multipurpose Room	71.8	21.1	460	0.0
Classroom 112	70.7	33.8	482	0.0
Classroom 105	72.6	29.7	482	0.0
Classroom 205	68.6	31.7	496	0.0
Classroom 210	70.2	30.9	485	0.0
Computer Laboratory	72.2	28.2	490	0.0
Teacher's Room	69.3	33.7	484	0.0
Background (Outdoors)	56.9	26.8	440	0.0

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

Table 2: Particulate Matter Less than 10 Microns (PM10) Gladys Noon Spellman Elementary School	
Location	**Particulate Matter (PM10)** **Concentration (mg/m^3)**
November 19, 2020	
Main Office	0.073
Media Center	0.070
Kindergarten Classroom 3 & 4	0.073
Multipurpose Room	0.075
Classroom 112	0.073
Classroom 105	0.074
Classroom 205	0.073
Classroom 210	0.076
Computer Laboratory	0.076
Teacher's Room	0.078
Background (Outdoors)	0.096

Table 3: Spore Trap Sampling Results Gladys Noon Spellman Elementary School			
November 19 2020			
Sample Number	**Sample Location**	**Sample Volume (L)**	**Total Fungi Concentration (Counts/m^3)**
GNSES-1	Main Office	75.0	720
GNSES -2	Media Center	75.0	390
GNSES-3	Kindergarten Classroom 3 & 4	75.0	430
GNSES-4	Multipurpose Room	75.0	590
GNSES-5	Classroom 112	75.0	140
GNSES-6	Classroom 105	75.0	**1,520**
GNSES-7	Classroom 205	75.0	**34,840**
GNSES-8	Classroom 210	75.0	870
GNSES-9	Computer Laboratory	75.0	**2,390**
GNSES-10	Teacher's Room	75.0	480
GNSES -BG	Background (Outdoors)	75.0	1,410

*Highlighted Area indicate location where the concentrations of the indoor sample are higher than the concentration detected in the background sample.

Table 3: Spore Trap Sampling Results Gladys Noon Spellman Elementary School			
February 25, 2021			
Sample Number	**Sample Location**	**Sample Volume (L)**	**Total Fungi Concentration (Counts/m^3)**
GNSES-6	Classroom 105	75.0	590
GNSES-7	Classroom 205	75.0	**2,840**
GNSES-9	Computer Laboratory	75.0	1,070
GNSES -BG	Background (Outdoors)	75.0	1.790

*Highlighted Area indicate location where the concentrations of the indoor sample are higher than the concentration detected in the background sample.

Table 3: Spore Trap Sampling Results Gladys Noon Spellman Elementary School			
March 5, 2022			
Sample Number	**Sample Location**	**Sample Volume (L)**	**Total Fungi Concentration (Counts/m^3)**
030521-GNS-1	Classroom 205	75.0	8,80
030521-GNS-BG	Background (Outdoors)	75.0	87,540

APPENDIX B

LABORATORY REPORTS AND CHAIN OF CUSTODY FORMS

EMSL Analytical, Inc.

100 Green Park Industrial Court Saint Louis, MO 63123
Tel/Fax: (314) 577-0150 / (314) 776-3313
http://www.EMSL.com / saintlouislab@emsl.com

EMSL Order: 392011030
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: Glady's Noon Spellman

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 11/19/2020
Received Date: 11/30/2020
Analyzed Date: 12/07/2020

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

Lab Sample Number:	392011030-0001			392011030-0002			392011030-0003		
Client Sample ID:	GNSES-1			GNSES-2			GNSES-3		
Volume (L):	75			75			75		
Sample Location:	Main Office			Media Center			KG Room 3&4		
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	5.6	-	-	-	1	40	9.3
Aspergillus/Penicillium	2	90	12.5	-	-	-	-	-	-
Basidiospores	7	300	41.7	6	300	76.9	7	300	69.8
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	4	200	27.8	2	90	23.1	2	90	20.9
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	2	90	12.5	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**16**	**720**	**100**	**8**	**390**	**100**	**10**	**430**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	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.

Amber Stegmann

Amber Stegmann, Micro Supervisor
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. Saint Louis, MO

Initial report from: 12/07/2020 10:29 AM

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

EMSL Analytical, Inc.

100 Green Park Industrial Court Saint Louis, MO 63123
Tel/Fax: (314) 577-0150 / (314) 776-3313
http://www.EMSL.com / saintlouislab@emsl.com

EMSL Order: 392011030
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Project: Glady's Noon Spellman

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 11/19/2020
Received Date: 11/30/2020
Analyzed Date: 12/07/2020

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

	392011030-0004			392011030-0005			392011030-0006		
Lab Sample Number:									
Client Sample ID:	GNSES-4			GNSES-5			GNSES-6		
Volume (L):	75			75			75		
Sample Location:	Multipurpose Room			GR Classroom 112			Classroom 105		
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	6	300	50.8	-	-	-	21	920	60.5
Basidiospores	5	200	33.9	3	100	71.4	9	400	26.3
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	2	90	15.3	1	40	28.6	5	200	13.2
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**13**	**590**	**100**	**4**	**140**	**100**	**35**	**1520**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

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

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

Amber Stegmann

Amber Stegmann, Micro Supervisor
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. Saint Louis, MO

Initial report from: 12/07/2020 10:29 AM

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

EMSL Analytical, Inc.

100 Green Park Industrial Court Saint Louis, MO 63123
Tel/Fax: (314) 577-0150 / (314) 776-3313
http://www.EMSL.com / saintlouislab@emsl.com

EMSL Order: 392011030
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: Glady's Noon Spellman

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 11/19/2020
Received Date: 11/30/2020
Analyzed Date: 12/07/2020

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

	392011030-0007			392011030-0008			392011030-0009		
Lab Sample Number:									
Client Sample ID:	GNSES-7			GNSES-8			GNSES-9		
Volume (L):	75			75			75		
Sample Location:	Classroom 205			Classroom 210			Computer Lab		
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	0.1	2	90	10.3	2	90	3.8
Aspergillus/Penicillium	787	34300	98.5	6	300	34.5	39	1700	71.1
Basidiospores	4	200	0.6	5	200	23	7	300	12.6
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	8	300	0.9	4	200	23	6	300	12.6
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	1	40	4.6	-	-	-
Pithomyces++	-	-	-	1	40	4.6	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Total Fungi	**800**	**34840**	**100**	**19**	**870**	**100**	**54**	**2390**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	2	90	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

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

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

Amber Stegmann

Amber Stegmann, Micro Supervisor
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. Saint Louis, MO

Initial report from: 12/07/2020 10:29 AM

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

EMSL Analytical, Inc.

100 Green Park Industrial Court Saint Louis, MO 63123
Tel/Fax: (314) 577-0150 / (314) 776-3313
http://www.EMSL.com / saintlouislab@emsl.com

EMSL Order: 392011030
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: Glady's Noon Spellman

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 11/19/2020
Received Date: 11/30/2020
Analyzed Date: 12/07/2020

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

Lab Sample Number:	392011030-0010			392011030-0011		
Client Sample ID:	GNSES-10			GNSES-Bg		
Volume (L):	75			75		
Sample Location:	Teachers Room			Outdoors		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	1	40	8.3	-	-	-
Ascospores	-	-	-	4	200	14.2
Aspergillus/Penicillium	29*	390*	81.3	4	200	14.2
Basidiospores	-	-	-	12	520	36.9
Bipolaris++	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-
Cladosporium	1	40	8.3	10	440	31.2
Curvularia	-	-	-	-	-	-
Epicoccum	-	-	-	1*	10*	0.7
Fusarium	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-
Myxomycetes++	1*	10*	2.1	1	40	2.8
Pithomyces++	-	-	-	-	-	-
Rust	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-
Total Fungi	**32**	**480**	**100**	**32**	**1410**	**100**
Hyphal Fragment	-	-	-	1	40	-
Insect Fragment	-	-	-	-	-	-
Pollen	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-
Background (1-5)	-	1	-	-	2	-

++ 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.

Amber Stegmann

Amber Stegmann, Micro Supervisor
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. Saint Louis, MO

Initial report from: 12/07/2020 10:29 AM

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

OrderID: 392011030

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*):

392011030

PHONE:
FAX:

Company: Tidewater Inc	**EMSL-Bill to:** ☐ Different ☐ Same If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 6625 Selnick Drive, Suite A	
City: Elkridge **State/Province:** MD	**Zip/Postal Code:** **Country:**
Report To (Name): Skanda Abeyesekere	**Telephone #:**
Email Address: skanda@tideh2o.net	**Fax #:** **Purchase Order:**
Project Name/Number: Gladys Noon Spellman	**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
- **M049** BioSIS
- **M030** Micro 5
- **M173** Allegro M2
- **M003** Burkard
- **M174** MoldSnap
- **M004** Allergenco
- **M043** Cyclex
- **M176** Relle Smart
- **M032** Allergenco-D
- **M002** Cyclex-d
- **M130** Via-Cell
- **M172** Versa Trap

Other Microbiology Test Codes

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

Preservation Method (Water):

Name of Sampler: Skanda Abeyesekere **Signature of Sampler:** 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
GNSES-1	Main office	Air	M032	75	11/19/2020
-2	Media center				
3	KG Room 3+4				
4	multipurpose Room				
5	GR classroom 112				
6	classroom 105				
7	Classroom 205				
8	Classroom 210				
9	Computer Lab				

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

Relinquished (Client): Skanda Abeyesekere **Date:** 11/19/2020 **Time:** 8:00 AM

Received (Client): L. Howarth Drop Box **Date:** **Time:**

Comments:

RECEIVED
EMSL ANALYTICAL, INC.
BELTSVILLE, MD
2020 NOV 23 A 10:05

OrderID: 392011030

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*):

392011030

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
GNSES-10	Teachers room	Air	Mold	75.0	11/19/20
GNSES-BG	outdoors	↓	↓	↓	↓

**Comments/Special Instructions:

Page 2 of 2 pages

EMSL Analytical, Inc.

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

EMSL Order: 182100682
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: PGCPS Gladys Noon S. ES

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 02/25/2021
Received Date: 02/26/2021
Analyzed Date: 02/26/2021

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

Lab Sample Number:	182100682-0001			182100682-0002			182100682-0003		
Client Sample ID:	GNSES - 6			GNSES - 7			GNSES - 9		
Volume (L):	75			75			75		
Sample Location:	Room 105			Room 205			Computer Room		
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	14	590	100	61	2600	91.5	5	200	18.7
Basidiospores	-	-	-	1	40	1.4	4	200	18.7
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	4	200	7	15	630	58.9
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Torula-like	-	-	-	-	-	-	1	40	3.7
Total Fungi	**14**	**590**	**100**	**66**	**2840**	**100**	**25**	**1070**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	1*	10*	-	1	40	-
Pollen	-	-	-	1*	10*	-	-	-	-
Analyt. Sensitivity 600x	-	42	-	-	42	-	-	42	-
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.

Kevin Ream, Laboratory Manager
or other Approved Signatory

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

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

Initial report from: 02/26/2021 02:57 PM

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

EMSL Analytical, Inc.

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

EMSL Order: 182100682
Customer ID: TIDE50
Customer PO:
Project ID:

Attention: Skanda Abeyeskere
Tidewater, Inc.
6625 Selnick Drive
Suite A
Elkridge, MD 21075
Project: PGCPS Gladys Noon S. ES

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date: 02/25/2021
Received Date: 02/26/2021
Analyzed Date: 02/26/2021

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

Lab Sample Number:	**182100682-0004**		
Client Sample ID:	**GNSES - BG**		
Volume (L):	**75**		
Sample Location:	**Background**		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-
Ascospores	2	80	4.5
Aspergillus/Penicillium	19	800	44.7
Basidiospores	4	200	11.2
Bipolaris++	-	-	-
Chaetomium	-	-	-
Cladosporium	15	630	35.2
Curvularia	-	-	-
Epicoccum	-	-	-
Fusarium	-	-	-
Ganoderma	-	-	-
Myxomycetes++	-	-	-
Pithomyces++	1	40	2.2
Rust	1*	10*	0.6
Scopulariopsis/Microascus	-	-	-
Stachybotrys/Memnoniella	-	-	-
Unidentifiable Spores	-	-	-
Zygomycetes	-	-	-
Nigrospora	2*	30*	1.7
Torula-like	-	-	-
Total Fungi	**44**	**1790**	**100**
Hyphal Fragment	6	300	-
Insect Fragment	2	80	-
Pollen	2	80	-
Analyt. Sensitivity 600x	-	42	-
Analyt. Sensitivity 300x	-	13*	-
Skin Fragments (1-4)	-	1	-
Fibrous Particulate (1-4)	-	1	-
Background (1-5)	-	2	-

++ 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

Initial report from: 02/26/2021 02:57 PM

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

OrderID: 182100682

Microbiology Chain of Custody

EMSL Order Number (Lab Use Only)

182100682

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 Gladys Noon S. ES	**Please Provide Results:** ☐ FAX ☐ E-mail ☐ Mail
U.S. State Samples Taken: MD	**Connecticut Samples:** ☐ Commercial ☐ Residential

Turnaround Time (TAT) Options* - Please Check

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

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

Non Culturable Air Samples (Spore Traps) – Test Codes

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

Other Microbiology Test Codes

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

Preservation Method (Water):

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

Sample #	Sample Location	Sample Type	Test Code	Volume/Area	Date/Time Collected
	Kitchen	Air	M001	75L	
GNSES-6	Room 105	AN	M032	75	02/25/21
GNSES-7	Room 205				
GNSES-9	Computer Room				
GNSES-BG	Background				

Client Sample # (s): 4 **Total # of Samples:** 4 4

Relinquished (Client): **Date:** 02/25/21 **Time:** 21:00 PM2

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

Comments:

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: 182100817
Customer ID: TIDE50
Customer PO:
Project ID:

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

Phone: (410) 540-8700
Fax: (410) 997-8713
Collected Date:
Received Date: 03/08/2021
Analyzed Date: 03/09/2021

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

Lab Sample Number:	182100817-0001			182100817-0002		
Client Sample ID:	030521-GNS-1			030521-GNS-BG		
Volume (L):	75			75		
Sample Location:	Classroom 205			Background		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-
Aspergillus/Penicillium	20	840	95.5	2070	87400	99.8
Basidiospores	1	40	4.5	-	-	-
Bipolaris++	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-
Cladosporium	-	-	-	2	80	0.1
Curvularia	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-
Rust	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	4*	50*	0.1
Unidentifiable Spores	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-
Spegazzinia	-	-	-	1*	10*	0
Total Fungi	**21**	**880**	**100**	**2077**	**87540**	**100**
Hyphal Fragment	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-
Pollen	-	-	-	1	40	-
Analyt. Sensitivity 600x	-	42	-	-	42	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-
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: 03/09/2021 12:48 PM

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

OrderID: 182100817

Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*):

182100817

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 Gladys Noon ES	**Please Provide Results:** ☐ FAX ☐ E-mail ☐ Mail
U.S. State Samples Taken: MD	**Connecticut Samples:** ☐ Commercial ☐ Residential

Turnaround Time (TAT) Options* - Please Check

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

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

Non Culturable Air Samples (Spore Traps) – Test Codes

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

Other Microbiology Test Codes

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

Preservation Method (Water):

SKANDA ABEYESEKERE
Name of Sampler:

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
030521-GNS-1	Classroom 205	Air	M032	75	03/05/2021
030521-GNS-BG	Background	Air	↓	↓	↓

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

Relinquished (Client): **Date:** 03/05/2021 **Time:** 1:00pm

Received (Client): **Date:** 3.8.21 **Time:** 9:30

Comments:

EMSL Fedex (no 4's)
7844 9384 7234

APPENDIX C

INSTRUMENT CALIBRATION CERTIFICATES

TSI P/N 2300157

CERTIFICATE OF CALIBRATION AND TESTING

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

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

MODEL	9565-X
SERIAL NUMBER	9565X1945002

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

-- CALIBRATION VERIFICATION RESULTS --

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

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

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

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

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

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

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

Rose Germain — CALIBRATED

November 8, 2019 — DATE

Doc. ID CERT_GEN_WCC_TM

TSI P/N 2300157

CERTIFICATE OF CALIBRATION AND TESTING

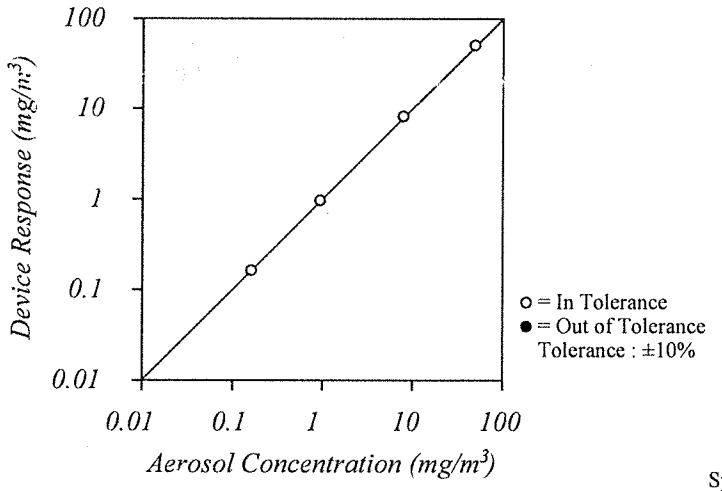
TSI Incorporated, 500 Cardigan Road, Shoreview, MN 55126 USA
Tel: 1-800-874-2811 1-651-490-2811 Fax: 1-651-490-3824 http://www.tsi.com

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

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

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

Concentration Linearity Plot



System ID: DTII01-02

FLOW AND PRESSURE VERIFICATION — SYSTEM DTII01-01

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

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

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

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

David Farrell
Calibrated

September 24, 2020
Date

Certificate of Conformance

(X) Buck BioAire™ ( ) Buck BioSlide™

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

Flow Calibration

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

QA APPROVAL BY: Thomas J. Cranmer

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

BUCK
A.P. BUCK, INC.

APPENDIX D

RELEVANT CERTIFICATIONS

ABIH®

american board of industrial hygiene®

organized to improve the practice of industrial hygiene
proclaims that

Skandakumar Harshanath Abeyesekere

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

COMPREHENSIVE PRACTICE
of
INDUSTRIAL HYGIENE

and has the right to use the designations

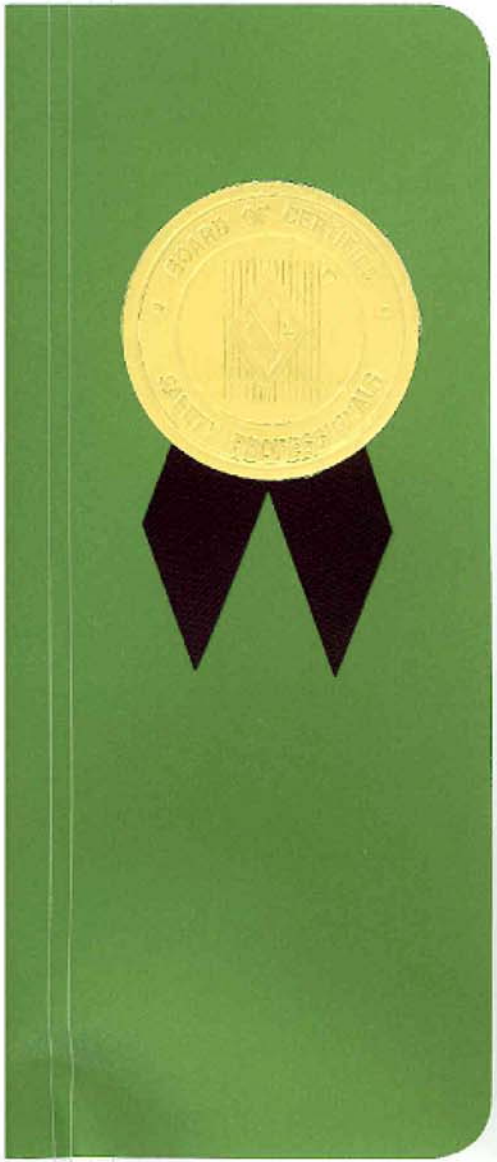
CERTIFIED INDUSTRIAL HYGIENIST

CIH®

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

Susan Ripple
Chair, ABIH

Chief Executive Officer, ABIH



BOARD OF CERTIFIED SAFETY PROFESSIONALS

affirms that

Skandakumar Abeyesekere

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

Certified Safety Professional®

in Comprehensive Practice

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

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

Paul S Adams — President

Linda Tapp — Secretary

20110 — CSP No.

INSTITUTE OF HAZARDOUS MATERIALS MANAGEMENT

THIS CERTIFIES THAT

Skandakumar Abeyeskere

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

CERTIFIED HAZARDOUS MATERIALS MANAGER
CHMM

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

May 13, 2016
DATE OF CERTIFICATION

19053
CREDENTIAL NUMBER

May 31, 2021
CERTIFICATION EXPIRES

M. Patricia Buley
ACTING EXECUTIVE DIRECTOR

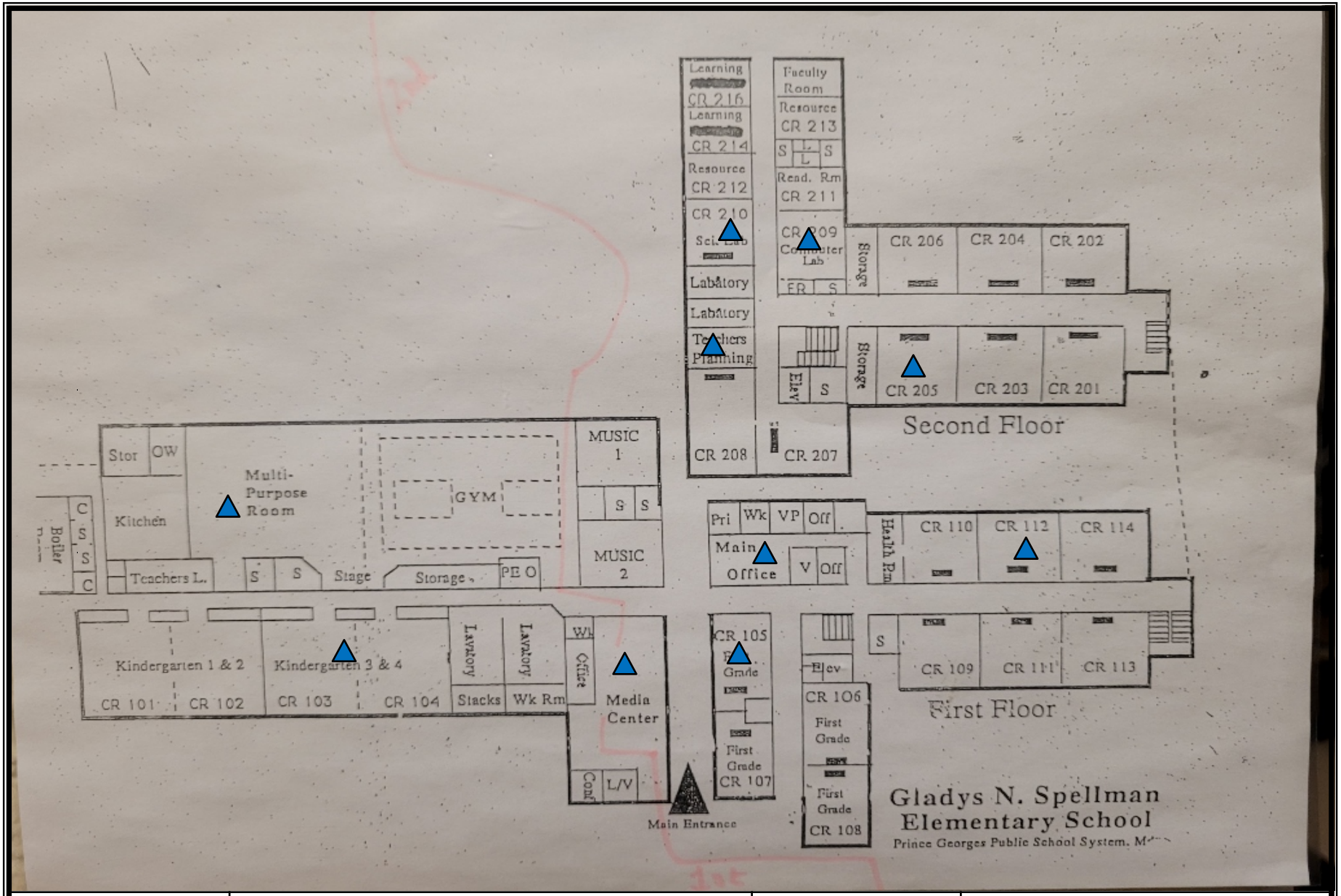
VALID SO LONG AS THIS CREDENTIAL IS RENEWED ACCORDING TO SCHEDULE AND IS NOT OTHERWISE REVOKED.

ANSI Accredited Program PERSONNEL CERTIFICATION

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

APPENDIX E

FLOOR PLAN WITH SAMPLING LOCATIONS



TIDEWATER INC	**Attachment C** **Gladys N. Spellman Elementary School** **Floor Plan with Sampling Locations**	Scale: N/A Project #: 5419-030 Date: November 19, 2020	**General Notes** ▲ = Sample Location