Soil and Land Use Technology, Inc.
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Telephone: (301) 595-3783
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June 24, 2019

Prince George's County Public School (PGCPS)
Environmental Safety Office
13306 Old Marlboro Pike
Upper Marlboro, MD 20772

Attention: Alex Baylor
alex.baylor@pgcps.org

Subject: Indoor Air Quality Survey
Bowie High School
15200 Annapolis Road
Bowie, MD 20715

Mr. Baylor:

On June 2, 2019, a Soil and Land Use Technology, Inc. (SaLUT) Industrial Hygienist conducted an indoor air quality (IAQ) evaluation at Bowie High School, a property maintained by the Prince George's County Public School (PGCPS) located at 15200 Annapolis Road, Bowie, MD 20715. The inspection was performed in accordance with PGCPS contract number IFB 022-19.

**Methodology**

The IAQ evaluation conducted by SaLUT included a visual assessment, IAQ instrumentation screening, and a collection of interior air samples for mold in representative locations throughout the building. Additionally, one building exterior environmental air sample was taken for comparison.

Air-borne fungal spore samples were collected on *Air-O-Cell* cassettes using a Buck BioAire calibrated pump. The air samples were taken between three and five feet from the ground. In tandem with collecting mold samples, real-time readings for carbon dioxide, carbon monoxide, temperature and relative humidity were collected using a Fluke 975 Air Meter in representative areas within the facility. A MiniRAE 3000-photoionization detector (PID) was used to measure total volatile organic compounds (TVOC).

Respirable particulate in air (size classes PM2.5µ and PM10µ) was measured using the Particles Plus 8306 Handheld Particle Counter which was calibrated prior to sampling. The fungal spore air samples were delivered to EMSL Analytical, Inc. of Beltsville,

Maryland for analysis. Fungal spores and particulates in air samples were analyzed by Optical Microscopy (methods EMSL 05-TP-003 and ASTM D7391). The sample chain-of-custody and laboratory reports are attached.

## Observations

The table below summarizes the main observations from the IAQ survey at Bowie High School, visited on June 2, 2019.

**Table 1-Observations**

| Location | Summary of Observations 6-2-2019 |
|---|---|
| Classroom 22-C | 2′ x 4′ ceiling tiles and 1′ x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces. |
| Classroom 28 | 2′ x 4′ ceiling tiles and 1′ x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces. |
| Classroom 104 (Science Lab) | 2′ x 4′ ceiling tiles and 1′ x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces; Unit ventilator system. |
| Classroom 105 | 2′ x 4′ ceiling tiles and 1′ x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces; Dusty air vents and stained tiles. |
| Classroom 113 | 2′ x 4′ ceiling tiles and 1′x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces; Dusty air vents and stained tiles. |
| Classroom 129 (Science Lab) | 2′ x 4′ ceiling tiles and 1′x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces; |
| Classroom 131 (Science Lab) | 2′ x 4′ ceiling tiles and 1′ x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces. |
| Classroom 132 (Science Lab) | 2′ x 4′ ceiling tiles and 1′ x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces. |
| Classroom 142 (Science Lab) | 2′ x 4′ ceiling tiles and 1′x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces; Central HVAC system. |
| Classroom 231 | 2′ x 4′ ceiling tiles and 1′x 1′ tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces. |

| Location | Summary of Observations 6-2-2019 |
|---|---|
| Classroom 241 | 2′ x 2′ ceiling tiles and 1′x 1′ tile floor;<br>No visual signs of microbial growth, and no odor;<br>No visible dust on floor/other furniture surfaces. |
| Classroom 244 | 2′ x 4′ ceiling tiles and 1′x 1′ tile floor;<br>No visual signs of microbial growth, and no odor;<br>No visible dust on floor/other furniture surfaces. |
| Child Dev | 2′ x 4′ ceiling tiles and 1′ x 1′ tile floor;<br>No visual signs of microbial growth, and no odor;<br>No visible dust on floor/other furniture surfaces. |
| Teacher's Lounge | 2′ x 4′ ceiling tiles and 1′ x 1′ tile floor;<br>No visual signs of microbial growth, and no odor;<br>No visible dust on floor/other furniture surfaces. |
| Gymnasium | No visual signs of microbial growth, and no odor;<br>No visible dust on floor/other furniture surfaces. |

## Measurements of Indoor Environmental Quality Parameters

Table 2 depicts a summary of average measurements of comfort parameters and respirable particulates.

## Temperature

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) have published recommendations for year round acceptable temperatures in Standard 55-2010 *Thermal Environmental Conditions for Human Occupancy*. The winter comfort range is 20 to 24°C (68 to 75°F) and 23 to 26°C (73 to 79°F) is the summer comfort range. The temperature readings were within the ASHRAE recommended ranges in the representative spaces with the exception of some readings which were slightly lower than the ASHRAE comfort level.

## Relative Humidity (RH)

RH is a key factor for mold growth. Mold has the potential of growing on suitable surfaces with humidity levels above 60%. ASHRAE Standard 62.1-2010 *Ventilation for Acceptable Indoor Air Quality* recommends a maximum indoor RH of 65% to preclude the likelihood of condensation on cool surfaces encouraging mold growth. The RH readings were within the ASHRAE recommended ranges in the representative areas.

## Carbon Dioxide ($CO_2$)

Under conditions of maximum occupancy, ASHRAE Standard 62.1-2010, Appendix C, infers that the acceptable $CO_2$ upper limit is the prevailing outdoor $CO_2$ concentration plus 700 parts per million (ppm). On the day of the space evaluation, the outdoor (building exterior) $CO_2$ concentration was approximately 569 ppm therefore indoor

concentrations should not exceed approximately 1,269 ppm (700 + 569). The maximum average interior $CO_2$ concentration detected was 625 ppm in the Science Lab 142, a range within the ASHRAE recommendations, per Table 2 below.

**Carbon Monoxide (CO)**

CO is a colorless and odorless gas that is produced by the incomplete combustion of carbon containing fuels. Oil, gasoline, diesel fuels, wood, coke, and coal are major sources of CO. All registered CO concentrations were below the EPA National Ambient Air Quality Standard (NAAQS) of 9 ppm, per Table 2 below.

**Respirable Particulates**

Direct reading particulate monitoring did not identify a condition of concern. Particulate concentrations for two mass ranges with EPA ambient air quality guidelines (PM2.5 and PM10) were below their respective NAAQS levels. On June 2, 2019, the highest average PM2.5 concentration during the monitoring period was 0.003 mg/m$^3$ (3 µg/m$^3$) in the Teacher's Lounge. This is compared to the NAAQS primary standard for PM2.5 of 12 µg/m$^3$ annual mean. The highest average PM10 concentration during the same period was 0.047 mg/m$^3$ (47 µg/m$^3$) in the Teacher's Lounge. This is compared to NAAQS standard for PM10 of 150 µg/m$^3$ 24 hour average.

**Total Volatile Organic Chemicals (TVOC)**

LEED's standard of 500 µg/m$^3$ for TVOC (ANSI/ASHRAE Standard 62.1-2010) concentrations per the instrument's level of detection for a healthy commercial building were used as the standard for TVOCs for this survey. Concentrations below this value can be considered as "background levels" and, at such low concentrations, they are extremely unlikely to cause any adverse health conditions to the occupants. Generally, values below 3000 µg/m$^3$ are unlikely to cause more than mild irritation or headaches, but to date no recognized industry standard has been established for TVOCs. Perfumes, colognes, and air fresheners as well as certain cleaning chemicals can all cause temporary increases in TVOC readings. TVOC readings cannot be used to establish OSHA limits on specific VOCs or be attributed to specific compounds.

**Table 2: Bowie High School Instrumental Screening Levels**
**June 2, 2019**

| Sample Location | Temp °F | RH% | CO ppm | $CO_2$ ppm | PM 2.5 mg/m³ | PM 10 mg/m³ | TVOC ppm |
|---|---|---|---|---|---|---|---|
| Standards | ASHRAE 73 to 79°F* | ASHRAE <65% | NAAQS 9 | ASHRAE 1,269 | NAAQS 0.012 | NAAQS 0.150 | 1.0 |
| **Classroom 22-C** | 70.2 | 47.5 | 0 | 568 | 0.001 | 0.031 | 0 |
| **Classroom 28** | 73.2 | 43.8 | 0 | 565 | 0.001 | 0.036 | 0 |
| **Science Lab 104** | 72.2 | 43.2 | 0 | 565 | 0.001 | 0.021 | 0.1 |
| **Classroom 105** | 70.1 | 45.8 | 0 | 573 | 0.002 | 0.031 | 0.1 |
| **Classroom 113** | 71.2 | 58.9 | 0 | 569 | 0.001 | 0.017 | 0 |
| **Science Lab 129** | 72.4 | 48.5 | 0 | 589 | 0.001 | 0.019 | 0 |
| **Science Lab 131** | 70.3 | 48.3 | 0 | 521 | 0.001 | 0.019 | 0 |
| **Science Lab 132** | 68.3 | 48.3 | 0 | 571 | 0.002 | 0.028 | 0 |
| **Science Lab 142** | 69.2 | 45.4 | 0 | 625 | 0.001 | 0.021 | 0 |
| **Classroom 231** | 72.1 | 45.8 | 0 | 592 | 0.001 | 0.028 | 0 |
| **Classroom 241** | 74.3 | 48.2 | 0 | 539 | 0.001 | 0.031 | 0.1 |
| **Classroom 244** | 70.1 | 43.1 | 0 | 528 | 0.001 | 0.028 | 0 |
| **Child Dev** | 72.5 | 43.2 | 0 | 595 | 0.001 | 0.031 | 0 |
| **Teacher's Lounge** | 75.2 | 48.5 | 0 | 548 | 0.003 | 0.047 | 0 |
| **Gymnasium** | 79.0 | 55.8 | 0 | 523 | 0.002 | 0.037 | 0 |
| **Outside Exterior EV sample** | 83.8 | 48.5 | 0 | 569 | 0.002 | 0.029 | 0 |

**PM – Particulate Matter size**
**°F – Degrees Fahrenheit**
**CO – Carbon Monoxide**
**ppm – parts per million**
**µg/m³ – micrograms per cubic meter**
**RH% - % Relative Humidity**
**$CO_2$ – Carbon Dioxide**
*** - Summer Comfort Range**

## Mold-in-Air Samples

There are no definitive regulations or standardized guidelines for addressing airborne mold in an indoor setting. If building systems (ventilation, envelope) are functioning properly, the indoor population profile should mimic what is encountered outdoors and the concentrations should be below the outdoor (building exterior) environmental sample levels.

Tables 3 summarizes airborne mold spore sampling results and locations. On June 2, 2019, total mold counts in representative samples (spore count/m³ of air) in all the areas inspected were lower than the outdoor concentrations. Laboratory analysis follows this report (see attachment).

## Table 3: Bowie High School - Measurements of Mold-in-Air Samples
## June 2, 2019

| Spore Types | Classroom 22-C | Classroom 26 | Classroom 104 (Science Lab) | Classroom 105 |
|---|---|---|---|---|
| *Alternaria (Ulocladium)* | - | - | - | - |
| *Ascospores* | 480 | 40 | 830 | 1400 |
| *Aspergillus/Penicillium* | 660 | 200 | 440 | 1,800 |
| *Basidiospores* | 920 | 100 | 740 | 1,500 |
| *Bipolaris++* | - | - | - | - |
| *Chaetomium* | - | - | - | - |
| *Cladosporium* | - | - | 40 | 830 |
| *Curvularia* | - | - | - | - |
| *Epicoccum* | - | - | 10* | - |
| *Fusarium* | - | - | - | - |
| *Ganoderma* | - | - | - | - |
| *Myxomycetes++* | - | - | 40 | - |
| *Pithomyces++* | - | - | - | - |
| *Rust* | - | - | - | - |
| *Scopulariopsis/Microascus* | - | - | - | - |
| *Stachybotrys/Memnoniella* | - | - | - | - |
| *Unidentifiable Spores* | - | - | - | - |
| *Zygomycetes* | - | - | - | - |
| *Cercospora++* | - | - | - | - |
| *Paecilomyces-like* | - | - | - | - |
| *Hyphal Fragment* | - | - | - | 40 |
| *Insect Fragment* | - | - | - | - |
| *Pollen* | - | - | - | - |
| **Total Fungi** | **2,060** | **340** | **2,100** | **5,530** |

***Spore Counts per cubic meter of air (Counts/$m^3$).**
**++Includes other spores with similar morphology.**

## Table 3: Bowie High School - Measurements of Mold-in-Air Samples Continued
## June 2, 2019

| Spore Types | Classroom 113 | Classroom 129 (Science Lab) | Classroom 131 (Science Lab) | Classroom 132 (Science Lab) | Classroom 142 (Science Lab) |
|---|---|---|---|---|---|
| *Alternaria (Ulocladium)* | - | - | - | - | - |
| *Ascospores* | 1,900 | 40 | 570 | - | 100 |
| *Aspergillus/Penicillium* | 1,800 | 300 | 610 | 40 | 100 |
| *Basidiospores* | 2,100 | 200 | 830 | - | 90 |
| *Bipolaris++* | - | - | - | - | - |
| *Chaetomium* | - | - | - | - | - |
| *Cladosporium* | 1,300 | 200 | 440 | - | - |
| *Curvularia* | - | - | - | - | - |
| *Epicoccum* | - | - | - | - | - |
| *Fusarium* | - | - | - | - | - |
| *Ganoderma* | - | - | - | - | - |
| *Myxomycetes++* | - | - | - | - | - |
| *Pithomyces++* | - | - | - | - | - |
| *Rust* | - | - | - | - | - |
| *Scopulariopsis/Microascus* | - | - | - | - | - |
| *Stachybotrys/Memnoniella* | - | - | - | - | - |
| *Unidentifiable Spores* | - | - | - | - | - |
| *Zygomycetes* | - | - | - | - | - |
| *Cercospora++* | - | - | - | - | - |
| *Paecilomyces-like* | 100 | - | - | - | - |
| *Hyphal Fragment* | - | 10* | - | - | - |
| *Insect Fragment* | - | - | - | - | - |
| *Pollen* | - | - | - | - | - |
| **Total Fungi** | **7,200** | **740** | **2,450** | **40** | **290** |

***Spore Counts per cubic meter of air (Counts/$m^3$).**
**++Includes other spores with similar morphology.**

## Table 3: Bowie High School - Measurements of Mold-in-Air Samples Continued
## June 2, 2019

| Spore Types | Classroom 231 | Classroom 241 | Classroom 244 | Child Dev. |
|---|---|---|---|---|
| *Alternaria (Ulocladium)* | - | - | - | - |
| *Ascospores* | 200 | 200 | 40 | 200 |
| *Aspergillus/Penicillium* | 300 | 300 | 90 | - |
| *Basidiospores* | 300 | 440 | 200 | 300 |
| *Bipolaris++* | - | - | - | - |
| *Chaetomium* | - | - | - | - |
| *Cladosporium* | - | 520 | - | 100 |
| *Curvularia* | - | - | - | - |
| *Epicoccum* | - | - | - | - |
| *Fusarium* | - | - | - | - |
| *Ganoderma* | - | - | - | - |
| *Myxomycetes++* | - | - | - | - |
| *Pithomyces++* | - | - | - | - |
| *Rust* | - | - | - | - |
| *Scopulariopsis/Microascus* | - | - | - | - |
| *Stachybotrys/Memnoniella* | - | - | - | - |
| *Unidentifiable Spores* | - | - | - | - |
| *Zygomycetes* | - | - | - | - |
| *Cercospora++* | - | - | - | - |
| *Paecilomyces-like* | - | - | - | - |
| *Hyphal Fragment* | - | - | - | - |
| *Insect Fragment* | - | - | - | - |
| *Pollen* | - | - | - | - |
| **Total Fungi** | **800** | **1,460** | **330** | **600** |

***Spore Counts per cubic meter of air (Counts/$m^3$).**
**++Includes other spores with similar morphology.**

**Table 3: Bowie High School - Measurements of Mold-in-Air Samples Continued**
**June 2, 2019**

| Spore Types | Teacher's Lounge | Gymnasium | Outside | Field Blank |
|---|---|---|---|---|
| *Alternaria (Ulocladium)* | - | - | - | - |
| *Ascospores* | - | 400 | 1,500 | - |
| *Aspergillus/Penicillium* | - | 790 | 10,800 | - |
| *Basidiospores* | - | 1,500 | 1,200 | - |
| *Bipolaris++* | - | - | - | - |
| *Chaetomium* | - | - | - | - |
| *Cladosporium* | - | 300 | 40 | - |
| *Curvularia* | - | - | - | - |
| *Epicoccum* | - | - | - | - |
| *Fusarium* | - | - | - | - |
| *Ganoderma* | - | - | 40 | - |
| *Myxomycetes++* | - | - | - | - |
| *Pithomyces++* | - | - | - | - |
| *Rust* | - | - | - | - |
| *Scopulariopsis/Microascus* | - | - | - | - |
| *Stachybotrys/Memnoniella* | - | - | - | - |
| *Unidentifiable Spores* | - | - | - | - |
| *Zygomycetes* | - | - | - | - |
| *Cercospora++* | - | | 40 | |
| *Paecilomyces-like* | - | - | - | - |
| *Hyphal Fragment* | - | - | - | - |
| *Insect Fragment* | - | - | - | - |
| *Pollen* | - | | - | - |
| **Total Fungi** | **No Trace** | **2,990** | **13,620** | **No Trace** |

***Spore Counts per cubic meter of air (Counts/$m^3$).**
**++Includes other spores with similar morphology.**

## Findings and Conclusions

The comfort parameters (i.e., temperature, RH, $CO_2$, and CO levels) and respirable particulates in the representative areas conform to ASHRAE and/or NAAQS guidelines with the exception of the some temperature readings which were slightly lower than the ASHRAE comfort level. On June 2, 2019, total mold counts in representative area samples (spore count/$m^3$ of air) in all the areas inspected were lower than the outdoor concentrations, indicating no amplified mold growth.

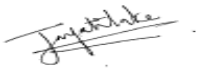
**Recommendations**

Based on the observations, mold spore results, and the results of the indoor air quality parameters tested at Bowie High School, SaLUT recommends the following measures to address the indoor air quality concerns documented:

1. Thoroughly clean the air vents and replace suspect stained ceiling tiles in Classrooms 113 and 105.

Thank you for the opportunity to provide industrial hygiene services for PGCPS. If you have any questions, please contact me at 301.595.3783.

Sincerely,



Chaminda Jayatilake, PE, CIH, CSP, CHMM
Certified Industrial Hygienist
Soil and Land Use Technology Inc. (SaLUT)

**Attachment**

Attachment - Mold Spore Sample Analytical Results and Chain-of-Custody Forms

# Attachment

# Mold Spore Sample Analytical Results and Chain-of-Custody Forms

# EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514

Tel/Fax: (516) 997-7251 / (516) 997-7528

http://www.EMSL.com / carleplacelab@emsl.com


**EMSL Order:** 061910926
**Customer ID:** SALU50
**Customer PO:**
**Project ID:**

**Attn:** Indika Jayatilake
SaLUT
1818 New York Avenue, NE
Suite 218A
Washington, DC 20002
**Project:** PGCPS IAQ/19-035, Bowie HS

**Phone:** (301) 595-3783
**Fax:** (301) 595-3787
**Collected:** 06/02/2019
**Received:** 06/03/2019
**Analyzed:** 06/06/2019

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

| Lab Sample Number: | 061910926-0001 | | | 061910926-0002 | | | 061910926-0003 | | |
|---|---|---|---|---|---|---|---|---|---|
| Client Sample ID: | 28398711 | | | 28399013 | | | 28398706 | | |
| Volume (L): | 75 | | | 75 | | | 75 | | |
| Sample Location | 105 | | | 104 (Science Lab) | | | 131 (Science Lab) | | |
| **Spore Types** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** |
| Alternaria (Ulocladium) | - | - | - | - | - | - | - | - | - |
| Ascospores | 33 | 1400 | 25.3 | 19 | 830 | 39.5 | 13 | 570 | 23.3 |
| Aspergillus/Penicillium | 42 | 1800 | 32.5 | 10 | 440 | 21 | 14 | 610 | 24.9 |
| Basidiospores | 35 | 1500 | 27.1 | 17 | 740 | 35.2 | 19 | 830 | 33.9 |
| Bipolaris++ | - | - | - | - | - | - | - | - | - |
| Chaetomium | - | - | - | - | - | - | - | - | - |
| Cladosporium | 19 | 830 | 15 | 1 | 40 | 1.9 | 10 | 440 | 18 |
| Curvularia | - | - | - | - | - | - | - | - | - |
| Epicoccum | - | - | - | 1* | 10* | 0.5 | - | - | - |
| Fusarium | - | - | - | - | - | - | - | - | - |
| Ganoderma | - | - | - | - | - | - | - | - | - |
| Myxomycetes++ | - | - | - | 1 | 40 | 1.9 | - | - | - |
| Pithomyces++ | - | - | - | - | - | - | - | - | - |
| Rust | - | - | - | - | - | - | - | - | - |
| Scopulariopsis/Microascus | - | - | - | - | - | - | - | - | - |
| Stachybotrys/Memnoniella | - | - | - | - | - | - | - | - | - |
| Unidentifiable Spores | - | - | - | - | - | - | - | - | - |
| Zygomycetes | - | - | - | - | - | - | - | - | - |
| Cercospora++ | - | - | - | - | - | - | - | - | - |
| Paecilomyces-like | - | - | - | - | - | - | - | - | - |
| **Total Fungi** | **129** | **5530** | **100** | **49** | **2100** | **100** | **56** | **2450** | **100** |
| Hyphal Fragment | 1 | 40 | - | - | - | - | - | - | - |
| Insect Fragment | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - |
| Analyt. Sensitivity 600x | - | 44 | - | - | 44 | - | - | 44 | - |
| Analyt. Sensitivity 300x | - | 13* | - | - | 13* | - | - | 13* | - |
| Skin Fragments (1-4) | - | 1 | - | - | 2 | - | - | 2 | - |
| 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.

**Jeffrey Lau, Microbiology 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. 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. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY AIHA-LAP, LLC--EMLAP Accredited #102344

Initial report from: 06/09/2019 10:37:45

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

# EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514

Tel/Fax: (516) 997-7251 / (516) 997-7528

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**Fax:** (301) 595-3787
**Collected:** 06/02/2019
**Received:** 06/03/2019
**Analyzed:** 06/06/2019

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

| Lab Sample Number: | 061910926-0004 | | | 061910926-0005 | | | 061910926-0006 | | |
|---|---|---|---|---|---|---|---|---|---|
| Client Sample ID: | 2839723 | | | 28398715 | | | 28399078 | | |
| Volume (L): | 75 | | | 75 | | | 75 | | |
| Sample Location | 132 (Science Lab) | | | 142 (Science Lab) | | | 129 (Science Lab) | | |
| **Spore Types** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** |
| Alternaria (Ulocladium) | - | - | - | - | - | - | - | - | - |
| Ascospores | - | - | - | 3 | 100 | 34.5 | 1 | 40 | 5.4 |
| Aspergillus/Penicillium | 1 | 40 | 100 | 3 | 100 | 34.5 | 8 | 300 | 40.5 |
| Basidiospores | - | - | - | 2 | 90 | 31 | 5 | 200 | 27 |
| Bipolaris++ | - | - | - | - | - | - | - | - | - |
| Chaetomium | - | - | - | - | - | - | - | - | - |
| Cladosporium | - | - | - | - | - | - | 4 | 200 | 27 |
| Curvularia | - | - | - | - | - | - | - | - | - |
| Epicoccum | - | - | - | - | - | - | - | - | - |
| Fusarium | - | - | - | - | - | - | - | - | - |
| Ganoderma | - | - | - | - | - | - | - | - | - |
| Myxomycetes++ | - | - | - | - | - | - | - | - | - |
| Pithomyces++ | - | - | - | - | - | - | - | - | - |
| Rust | - | - | - | - | - | - | - | - | - |
| Scopulariopsis/Microascus | - | - | - | - | - | - | - | - | - |
| Stachybotrys/Memnoniella | - | - | - | - | - | - | - | - | - |
| Unidentifiable Spores | - | - | - | - | - | - | - | - | - |
| Zygomycetes | - | - | - | - | - | - | - | - | - |
| Cercospora++ | - | - | - | - | - | - | - | - | - |
| Paecilomyces-like | - | - | - | - | - | - | - | - | - |
| **Total Fungi** | **1** | **40** | **100** | **8** | **290** | **100** | **18** | **740** | **100** |
| Hyphal Fragment | - | - | - | - | - | - | 1* | 10* | - |
| Insect Fragment | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - |
| Analyt. Sensitivity 600x | - | 44 | - | - | 44 | - | - | 44 | - |
| Analyt. Sensitivity 300x | - | 13* | - | - | 13* | - | - | 13* | - |
| Skin Fragments (1-4) | - | 1 | - | - | 1 | - | - | 2 | - |
| Fibrous Particulate (1-4) | - | 1 | - | - | 1 | - | - | 1 | - |
| Background (1-5) | - | 1 | - | - | 1 | - | - | 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**



Initial report from: 06/09/2019 10:37:45

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# EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514

Tel/Fax: (516) 997-7251 / (516) 997-7528

http://www.EMSL.com / carleplacelab@emsl.com


**EMSL Order:** 061910926
**Customer ID:** SALU50
**Customer PO:**
**Project ID:**

**Attn:** Indika Jayatilake
SaLUT
1818 New York Avenue, NE
Suite 218A
Washington, DC 20002
**Project:** PGCPS IAQ/19-035, Bowie HS

**Phone:** (301) 595-3783
**Fax:** (301) 595-3787
**Collected:** 06/02/2019
**Received:** 06/03/2019
**Analyzed:** 06/06/2019

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

| Lab Sample Number: | 061910926-0007 | | | 061910926-0008 | | | 061910926-0009 | | |
|---|---|---|---|---|---|---|---|---|---|
| Client Sample ID: | 28390339 | | | 28398969 | | | 28398707 | | |
| Volume (L): | 75 | | | 75 | | | 75 | | |
| Sample Location | 113 | | | GYM | | | 231 | | |
| **Spore Types** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** |
| Alternaria (Ulocladium) | - | - | - | - | - | - | - | - | - |
| Ascospores | 43 | 1900 | 26.4 | 9 | 400 | 13.4 | 5 | 200 | 25 |
| Aspergillus/Penicillium | 41 | 1800 | 25 | 18 | 790 | 26.4 | 6 | 300 | 37.5 |
| Basidiospores | 48 | 2100 | 29.2 | 34 | 1500 | 50.2 | 7 | 300 | 37.5 |
| Bipolaris++ | - | - | - | - | - | - | - | - | - |
| Chaetomium | - | - | - | - | - | - | - | - | - |
| Cladosporium | 29 | 1300 | 18.1 | 6 | 300 | 10 | - | - | - |
| Curvularia | - | - | - | - | - | - | - | - | - |
| Epicoccum | - | - | - | - | - | - | - | - | - |
| Fusarium | - | - | - | - | - | - | - | - | - |
| Ganoderma | - | - | - | - | - | - | - | - | - |
| Myxomycetes++ | - | - | - | - | - | - | - | - | - |
| Pithomyces++ | - | - | - | - | - | - | - | - | - |
| Rust | - | - | - | - | - | - | - | - | - |
| Scopulariopsis/Microascus | - | - | - | - | - | - | - | - | - |
| Stachybotrys/Memnoniella | - | - | - | - | - | - | - | - | - |
| Unidentifiable Spores | - | - | - | - | - | - | - | - | - |
| Zygomycetes | - | - | - | - | - | - | - | - | - |
| Cercospora++ | - | - | - | - | - | - | - | - | - |
| Paecilomyces-like | 3 | 100 | 1.4 | - | - | - | - | - | - |
| **Total Fungi** | **164** | **7200** | **100** | **67** | **2990** | **100** | **18** | **800** | **100** |
| Hyphal Fragment | - | - | - | - | - | - | - | - | - |
| Insect Fragment | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | 1* | 10* | - | - | - | - |
| 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.

**Jeffrey Lau, Microbiology Laboratory Manager**
**or other approved signatory**



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**EMSL Order:** 061910926
**Customer ID:** SALU50
**Customer PO:**
**Project ID:**

**Attn:** Indika Jayatilake
SaLUT
1818 New York Avenue, NE
Suite 218A
Washington, DC 20002
**Project:** PGCPS IAQ/19-035, Bowie HS

**Phone:** (301) 595-3783
**Fax:** (301) 595-3787
**Collected:** 06/02/2019
**Received:** 06/03/2019
**Analyzed:** 06/06/2019

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

| Lab Sample Number: | 061910926-0010 | | | 061910926-0011 | | | 061910926-0012 | | |
|---|---|---|---|---|---|---|---|---|---|
| Client Sample ID: | 28398710 | | | 28400338 | | | 28400342 | | |
| Volume (L): | 75 | | | 75 | | | 75 | | |
| Sample Location | 244 | | | 241 | | | Child Dev | | |
| **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 | 12.1 | 4 | 200 | 13.7 | 5 | 200 | 33.3 |
| Aspergillus/Penicillium | 2 | 90 | 27.3 | 8 | 300 | 20.5 | - | - | - |
| Basidiospores | 5 | 200 | 60.6 | 10 | 440 | 30.1 | 7 | 300 | 50 |
| Bipolaris++ | - | - | - | - | - | - | - | - | - |
| Chaetomium | - | - | - | - | - | - | - | - | - |
| Cladosporium | - | - | - | 12 | 520 | 35.6 | 3 | 100 | 16.7 |
| Curvularia | - | - | - | - | - | - | - | - | - |
| Epicoccum | - | - | - | - | - | - | - | - | - |
| Fusarium | - | - | - | - | - | - | - | - | - |
| Ganoderma | - | - | - | - | - | - | - | - | - |
| Myxomycetes++ | - | - | - | - | - | - | - | - | - |
| Pithomyces++ | - | - | - | - | - | - | - | - | - |
| Rust | - | - | - | - | - | - | - | - | - |
| Scopulariopsis/Microascus | - | - | - | - | - | - | - | - | - |
| Stachybotrys/Memnoniella | - | - | - | - | - | - | - | - | - |
| Unidentifiable Spores | - | - | - | - | - | - | - | - | - |
| Zygomycetes | - | - | - | - | - | - | - | - | - |
| Cercospora++ | - | - | - | - | - | - | - | - | - |
| Paecilomyces-like | - | - | - | - | - | - | - | - | - |
| **Total Fungi** | **8** | **330** | **100** | **34** | **1460** | **100** | **15** | **600** | **100** |
| Hyphal Fragment | - | - | - | - | - | - | - | - | - |
| Insect Fragment | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - |
| Analyt. Sensitivity 600x | - | 44 | - | - | 44 | - | - | 44 | - |
| Analyt. Sensitivity 300x | - | 13* | - | - | 13* | - | - | 13* | - |
| Skin Fragments (1-4) | - | 1 | - | - | 2 | - | - | 2 | - |
| Fibrous Particulate (1-4) | - | 1 | - | - | 1 | - | - | 1 | - |
| Background (1-5) | - | 1 | - | - | 1 | - | - | 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**



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Suite 218A
Washington, DC 20002
**Project:** PGCPS IAQ/19-035, Bowie HS

**Phone:** (301) 595-3783
**Fax:** (301) 595-3787
**Collected:** 06/02/2019
**Received:** 06/03/2019
**Analyzed:** 06/06/2019

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

| Lab Sample Number: | 061910926-0013 | | | 061910926-0014 | | | 061910926-0015 | | |
|---|---|---|---|---|---|---|---|---|---|
| Client Sample ID: | 28398745 | | | 28398789 | | | 28398720 | | |
| Volume (L): | 75 | | | 75 | | | 75 | | |
| Sample Location | Teachers Loungh | | | 22-C | | | 26 | | |
| **Spore Types** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** |
| Alternaria (Ulocladium) | - | - | - | - | - | - | - | - | - |
| Ascospores | - | - | - | 11 | 480 | 23.3 | 1 | 40 | 11.8 |
| Aspergillus/Penicillium | - | - | - | 15 | 660 | 32 | 4 | 200 | 58.8 |
| Basidiospores | - | - | - | 21 | 920 | 44.7 | 3 | 100 | 29.4 |
| Bipolaris++ | - | - | - | - | - | - | - | - | - |
| Chaetomium | - | - | - | - | - | - | - | - | - |
| Cladosporium | - | - | - | - | - | - | - | - | - |
| Curvularia | - | - | - | - | - | - | - | - | - |
| Epicoccum | - | - | - | - | - | - | - | - | - |
| Fusarium | - | - | - | - | - | - | - | - | - |
| Ganoderma | - | - | - | - | - | - | - | - | - |
| Myxomycetes++ | - | - | - | - | - | - | - | - | - |
| Pithomyces++ | - | - | - | - | - | - | - | - | - |
| Rust | - | - | - | - | - | - | - | - | - |
| Scopulariopsis/Microascus | - | - | - | - | - | - | - | - | - |
| Stachybotrys/Memnoniella | - | - | - | - | - | - | - | - | - |
| Unidentifiable Spores | - | - | - | - | - | - | - | - | - |
| Zygomycetes | - | - | - | - | - | - | - | - | - |
| Cercospora++ | - | - | - | - | - | - | - | - | - |
| Paecilomyces-like | - | - | - | - | - | - | - | - | - |
| **Total Fungi** | **-** | **No Trace** | **-** | **47** | **2060** | **100** | **8** | **340** | **100** |
| Hyphal Fragment | - | - | - | - | - | - | - | - | - |
| Insect Fragment | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - |
| Analyt. Sensitivity 600x | - | 44 | - | - | 44 | - | - | 44 | - |
| Analyt. Sensitivity 300x | - | 13* | - | - | 13* | - | - | 13* | - |
| Skin Fragments (1-4) | - | - | - | - | 2 | - | - | 1 | - |
| Fibrous Particulate (1-4) | - | - | - | - | 1 | - | - | 1 | - |
| Background (1-5) | - | - | - | - | 2 | - | - | 1 | - |

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

**Jeffrey Lau, Microbiology Laboratory Manager**
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1818 New York Avenue, NE
Suite 218A
Washington, DC 20002
**Project:** PGCPS IAQ/19-035, Bowie HS

**Phone:** (301) 595-3783
**Fax:** (301) 595-3787
**Collected:** 06/02/2019
**Received:** 06/03/2019
**Analyzed:** 06/06/2019

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

| Lab Sample Number: | 061910926-0016 | | | 061910926-0017 | | | 061910926-0018 | | |
|---|---|---|---|---|---|---|---|---|---|
| Client Sample ID: | 28400341 | | | 28400340 | | | 28398764 | | |
| Volume (L): | 75 | | | | | | | | |
| Sample Location | Out Side | | | Field Blank | | | Field Blank | | |
| **Spore Types** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** | **Raw Count** | **Count/m³** | **% of Total** |
| Alternaria (Ulocladium) | - | - | - | - | - | - | - | - | - |
| Ascospores | 35 | 1500 | 11 | - | - | - | - | - | - |
| Aspergillus/Penicillium | 248 | 10800 | 79.3 | - | - | - | - | - | - |
| Basidiospores | 28 | 1200 | 8.8 | - | - | - | - | - | - |
| Bipolaris++ | - | - | - | - | - | - | - | - | - |
| Chaetomium | - | - | - | - | - | - | - | - | - |
| Cladosporium | 1 | 40 | 0.3 | - | - | - | - | - | - |
| Curvularia | - | - | - | - | - | - | - | - | - |
| Epicoccum | - | - | - | - | - | - | - | - | - |
| Fusarium | - | - | - | - | - | - | - | - | - |
| Ganoderma | 1 | 40 | 0.3 | - | - | - | - | - | - |
| Myxomycetes++ | - | - | - | - | - | - | - | - | - |
| Pithomyces++ | - | - | - | - | - | - | - | - | - |
| Rust | - | - | - | - | - | - | - | - | - |
| Scopulariopsis/Microascus | - | - | - | - | - | - | - | - | - |
| Stachybotrys/Memnoniella | - | - | - | - | - | - | - | - | - |
| Unidentifiable Spores | - | - | - | - | - | - | - | - | - |
| Zygomycetes | - | - | - | - | - | - | - | - | - |
| Cercospora++ | 1 | 40 | 0.3 | - | - | - | - | - | - |
| Paecilomyces-like | - | - | - | - | - | - | - | - | - |
| **Total Fungi** | **314** | **13620** | **100** | **-** | **No Trace** | **-** | **-** | **No Trace** | **-** |
| Hyphal Fragment | - | - | - | - | - | - | - | - | - |
| Insect Fragment | - | - | - | - | - | - | - | - | - |
| Pollen | - | - | - | - | - | - | - | - | - |
| Analyt. Sensitivity 600x | - | 44 | - | - | 0 | - | - | 0 | - |
| Analyt. Sensitivity 300x | - | 13* | - | - | 0* | - | - | 0* | - |
| 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.

**Jeffrey Lau, Microbiology Laboratory Manager**
**or other approved signatory**



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**Phone:** (301) 595-3783
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**Collected:** 06/02/2019
**Received:** 06/03/2019
**Analyzed:** 06/06/2019

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

| | | | |
|---|---|---|---|
| **Lab Sample Number:** | **061910926-0019** | | |
| **Client Sample ID:** | **28398733** | | |
| **Volume (L):** | **75** | | |
| **Sample Location** | **103** | | |

| Spore Types | Raw Count | Count/m³ | % of Total |
|---|---|---|---|
| Alternaria (Ulocladium) | - | - | - |
| Ascospores | 2 | 90 | 7.7 |
| Aspergillus/Penicillium | 18 | 790 | 67.5 |
| Basidiospores | 5 | 200 | 17.1 |
| Bipolaris++ | - | - | - |
| Chaetomium | - | - | - |
| Cladosporium | 2 | 90 | 7.7 |
| Curvularia | - | - | - |
| Epicoccum | - | - | - |
| Fusarium | - | - | - |
| Ganoderma | - | - | - |
| Myxomycetes++ | - | - | - |
| Pithomyces++ | - | - | - |
| Rust | - | - | - |
| Scopulariopsis/Microascus | - | - | - |
| Stachybotrys/Memnoniella | - | - | - |
| Unidentifiable Spores | - | - | - |
| Zygomycetes | - | - | - |
| Cercospora++ | - | - | - |
| Paecilomyces-like | - | - | - |
| **Total Fungi** | **27** | **1170** | **100** |
| Hyphal Fragment | - | - | - |
| Insect Fragment | - | - | - |
| Pollen | - | - | - |
| Analyt. Sensitivity 600x | - | 44 | - |
| Analyt. Sensitivity 300x | - | 13* | - |
| Skin Fragments (1-4) | - | 2 | - |
| Fibrous Particulate (1-4) | - | 1 | - |
| Background (1-5) | - | 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**

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. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY AIHA-LAP, LLC--EMLAP Accredited #102344

Initial report from: 06/09/2019 10:37:45

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

OrderID: 061910926

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

# Microbiology Chain of Custody

**EMSL Order Number** (*Lab Use Only*): 061910926

PHONE:
FAX:

| | | | |
|---|---|---|---|
| **Company Name:** SaLUT Inc. | | **EMSL-Bill to:** ☒ Same ☐ Different<br>If Bill to is Different note instructions in Comments**<br>*Third Party Billing requires written authorization from third party* | |
| **Street:** 1818 New York Ave NE Suite 231 | | | |
| **City:** Washington | **State/Province:** DC | **Zip/Postal Code:** 20002 | **Country:** USA |
| **Report To (Name):** Indika Jayatillake | | **Telephone #:** 301-595-3783 | |
| **Email Address:** ijayatilake@salutinc.com | | **Fax #:** | **Purchase Order:** |
| **Project Number/Location:** PGCPS IAQ/19-035 , Bowie HS | | **Please Provide Results:** ☐ Fax ☒ Email | |
| **Location Address:** 15200 Annapolis Rd, Bowie, MD 20715 | | **Connecticut Samples:** ☐ Commercial ☐ Residential | |

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

**Sterile, Sodium Thiosulfate Preserved Bottle Used:** ☐ **Biocide Used in Source (specify):** _____ ☐

**Public Water Supply Samples:** ☐ **Note: All results may automatically be reported to DOH if required by state.**

**Turnaround Time (TAT) Options * - Please Check**

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

**Microbiology Test Codes**

**M001** Air-O-Cell
**M030** Micro 5
**M174** MoldSnap
**M032** Allergenco-D
**M041** Fungal Direct Examination
**M169** Pollen ID & Enumeration
**M280** Dust Characterization Level-1
**M281** Dust Characterization Level-2
**M005** Viable Fungi- Air Samples (Genus ID & Count)
**M006** Viable Fungi- Air Samples ( Includes *Penicillium, Aspergillus, Cladosporium, Stachybotrys* Species ID & Count)
**M007** Culturable fungi - Surface Samples (Genus ID & Count)
**M008** Culturable fungi - Surface Samples (Includes *Penicillium, Aspergillus, Cladosporium, Stachybotrys* Species ID & Count)
**M009** Bacteria Culture Gram Stain & Count
**M010** Bacteria Count & ID - 3 Most Prominent
**M011** Bacteria Count & ID - 5 Most Prominent
**M012** Pseudomonas aeruginosa (P/A***)
**M024** Pseudomonas aeruginosa (MFT*)
**M015** Heterotrophic Plate Count
**M017** Total Coliform & E. coli (Colilert P/A***)
**M018** Total Coliform & E. coli (MFT*)
**M114** Total Coliform & E. coli Enumeration (Colilert MPN**)
**M019** Fecal Coliform (MFT*)
**M020** Fecal Streptococcus (MFT*)
**M029** Enterococci (MFT*)
**M129** Enterococci (Enterolert P/A***)
**M180** Real Time qPCR-ERMI 36 Panel
**M025** Sewage Screen –Water (MFT*)
**M115** Sewage Screen - Water (P/A***)
**M116** Sewage Screen - Water (MPN**)
**M117** Sewage Screen - Swab (P/A***)
**M013** Sewage Screen - Swab (MFT*)
**M133** Methicillin-resistant Staph. aureus (MRSA)
**M031** Rapid-growing non-TB Mycobacteria Detection & Enumeration
**M014** Endotoxin Analysis
**M044** Group Allergen (Cat, Dog, Cockroach, Dust Mite)
**Other** See Analytical Price Guide
**Legionella Analysis** Please use EMSL Legionella COC

*MFT= Membrane Filtration Technique
**MPN= Most Probable Number
***P/A= Presence/Absence

**Name of Sampler:** Shenal Dias **Signature of Sampler:**

| Sample # | Sample Location/Description | Sample Type | Potable/ NonPotable (only for waters) | Test Code | Volume/ Area | Date/Time Collected | Temperature (°C) (Lab Use Only) |
|---|---|---|---|---|---|---|---|
| 28398711 | 105 | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28399013 | 104( Science Lab) | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28398706 | 131( Science Lab) | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28398723 | 132( Science Lab) | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28398715 | 142( Science Lab) | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28399078 | 129( Science Lab) | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |

**Client Sample # (s):** - **Total # of Samples:** 19 **Samples Received Chilled? Yes / No**

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

**Received (Lab):** Hallim Kamara **Date:** 6/3/19 **Time:** 11:22

**Comments/Special Instructions:** Walk-In

Page 1 of _____

Controlled Document – COC-34 Micro R7.2 8/23/2017

6/6/19

OrderID: 061910926

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

# Microbiology Chain of Custody

**EMSL Order Number** (*Lab Use Only*):

061910926

PHONE:
FAX:

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

| Sample # | Sample Location/Description | Sample Type | Potable/ NonPotable | Test Code | Volume/ Area | Date/Time Collected | Temperature (°C) (Lab Use Only) |
|---|---|---|---|---|---|---|---|
| 28390339 | 113 | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28398969 | GYM | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28398707 | 231 | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28398710 | 244 | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28400338 | 241 | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28400342 | Child Dev | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28398745 | Teachers loungh | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28398789 | 22-C | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28398720 | 26 | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28400341 | Out Side | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| 28400340 | Field Blank | N/A | ☐P ☐NP | N/A | N/A | 06/02/2019 | |
| 28398764 | Field Blank | N/A | ☐P ☐NP | N/A | N/A | 06/02/2019 | |
| 28398733 | 103 | Air | ☐P ☐NP | M001 | 75L | 06/02/2019 | |
| | | | ☐P ☐NP | | | | |
| | | | ☐P ☐NP | | | | |
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| | | | ☐P ☐NP | | | | |

**Comments/~~Special~~ Instructions:**





6/6/19