Soil and Land Use Technology, Inc.

1818 New York Ave. NE, Ste 231, Washington, DC 20002 Telephone: (301) 595-3783
www.salutinc.com

June 7, 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
Brandywine Elementary School
14101 – Brandywine Rd
Brandywine, MD 20613

Mr. Baylor:

On May 15, 2019, a Soil and Land Use Technology, Inc. (SaLUT) Industrial Hygienist conducted an indoor air quality (IAQ) evaluation at Brandywine Elementary School, a property maintained by Prince George's County Public School (PGCPS), located at 14101 Brandywine Rd, Brandywine, MD 20613. The inspection was performed in accordance with PGPCS 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 Brandywine Elementary School, visited on May 15, 2019.

Table 1-Observations

Location	Summary of Observations 5-15-2019
Classroom 13	2'x4' ceiling tiles and 1'x1' tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces; Unit ventilator/Central HVAC system; Stain under sink; One stained ceiling tile.
Classroom 15	2'x4' ceiling tiles and 1'x1' tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces; Unit ventilator/Central HVAC system; Stain under sink; Two stained ceiling tiles.
Classroom 17	Visible suspected microbial growth on ceiling tile; Suspect microbial growth underneath the sink cabinet.
Classroom 18	2'x4' ceiling tiles and 1'x1' tile floor; Two stained ceiling tiles; Visual signs of microbial growth on ceiling tiles, and no odor; Visible dust on diffuser/but none on other furniture surfaces; Unit ventilator/Central HVAC system.
Classroom 20	2'x4' ceiling tiles and 1'x1' tile floor; One stained ceiling tile; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces; Unit ventilator/Central HVAC system.
Classroom 21	2'x4' ceiling tiles and 1'x1' tile floor; No visual signs of microbial growth, and no odor; No visible dust on floor/other furniture surfaces; Unit ventilator/Central HVAC system; Stain under sink; One stained ceiling tile.
Classroom 25	2'x4' ceiling tiles and 1'x1' tile floor; One stained ceiling tile; No visual signs of microbial growth, and no odor; Dust on diffuser, but none on other furniture surfaces; Unit ventilator/Central HVAC system.

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 the 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 lower than 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 536 ppm therefore indoor concentrations should not exceed approximately 1,236 ppm (700 + 536). The maximum average interior CO_2 concentration detected was 767 ppm in the Library, 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 May 15, 2019, the highest average PM2.5 concentration during the monitoring period was 0.003 mg/m^3 (3 $\mu g/m^3$) in the Cafeteria. This is compared to the NAAQS primary standard for PM2.5 of 12 $\mu g/m^3$

annual mean. The highest average PM10 concentration during the same period was 0.032 mg/m^3 (32 µg/m^3) in the Cafeteria. 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: Brandywine Elementary School Instrumental Screening Levels
May 15, 2019

Sample Location	Temp °F	RH%	CO ppm	CO_2 ppm	PM 2.5 mg/m^3	PM 10 mg/m^3	TVOC ppm
Standards	**ASHRAE 73 to 79°F&**	**ASHRAE <65%**	**NAAQS 9**	**ASHRAE 1,236**	**NAAQS 0.012**	**NAAQS 0.150**	**1.0**
Classroom 03	72.5	41.3	0	523	0.002	0.016	0.0
Classroom 08	70.7	44.2	0	534	0.003	0.021	0.1
Classroom 17	72.5	42.4	0	658	0.002	0.011	0.0
Classroom 18	71.6	42.9	0	637	0.002	0.018	0.1
Library	71.6	46.1	0	767	0.001	0.012	0.1
Cafeteria	70.7	42.6	0	658	0.004	0.032	0.0
Exterior of the Building- Next to the Entrance	76.8	35.2	0	536	0.003	0.051	0.0

PM – Particulate Matter size
°F – Degrees Fahrenheit
CO – Carbon Monoxide
ppm – parts per million
µg/m^3 – 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 May 15, 2019, total mold counts in representative samples (spore count/m^3 of air) in all the areas

inspected were lower than the outdoor concentrations with the exception of Classroom 18. Laboratory analysis follows this report (see attachment).

Table 3: Brandywine Elementary School - Measurements of Mold-in-Air Samples
May 15, 2019

Spore Types	Classroom 18 Area	Classroom 8 Area	Classroom 3 Area	Library Area
Alternaria (Ulocladium)	10*	-	-	10*
Ascospores	610	-	-	200
Aspergillus/Penicillium	480	-	300	100
Basidiospores	3,900	100	-	790
Bipolaris++	-	-	-	-
Chaetomium	-	-	-	-
Cladosporium	1900	-	-	90
Curvularia	10*	-	-	-
Epicoccum	-	-	-	-
Fusarium	-	-	-	-
Ganoderma	-	-	-	-
Myxomycetes++	100	10*	-	40
Pithomyces++	-	-	-	-
Rust	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-
Unidentifiable Spores	-	-	-	-
Zygomycetes	-	-	-	-
Cercospora++	-	-	-	-
Triadelphia	-	-	-	-
Hyphal Fragment	100	-	-	90
Insect Fragment	-	-	-	-
Pollen	-	-	-	-
Total Fungi	**7,010**	**110**	**300**	**1230**

*** Spore Counts per cubic meter of air (Counts/m^3)**

Table 3: Brandywine Elementary School - Measurements of Mold-in-Air Samples continued

May 15, 2019

Spore Types	Cafeteria	Classroom 17 Area	Outside Exterior EV Sample	Field Blank
Alternaria (Ulocladium)	-	10*	-	-
Ascospores	200	300	1000	-
Aspergillus/Penicillium	90	570	40	-
Basidiospores	870	1800	2800	-
Bipolaris++	-	-	-	-
Chaetomium	-	40	-	-
Cladosporium	200	400	660	-
Curvularia	-	40	-	-
Epicoccum	-	10*	-	-
Fusarium	-	-	-	-
Ganoderma	-	-	-	-
Myxomycetes++	40	480	100	-
Pithomyces++	-	-	-	-
Rust	-	-	-	-
Scopulariopsis/Microascus	-	40	-	-
Stachybotrys/Memnoniella	-	-	-	-
Unidentifiable Spores	-	-	-	-
Zygomycetes	-	-	-	-
Cercospora++	-	-	40	
Triadelphia	-	-	-	-
Hyphal Fragment	40	300	40	-
Insect Fragment	-	-	-	-
Pollen	100	-	70	-
Total Fungi	**1410**	**3690**	**4640**	**No Trace**

*** Spore Counts per cubic meter of air (Counts/m^3)**

Findings and Conclusions

The comfort parameters (i.e., temperature, RH, CO_2, and CO levels) and respirable particulates in the affected areas conform to ASHRAE and/or NAAQS guidelines. On May 15, 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, with the exception of Classroom 18 which indicates amplified mold growth.

Recommendations

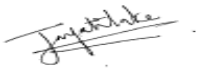
Based on the observations of the IAQ survey performed at Brandywine Elementary School, SaLUT recommends the following measures to address the indoor air quality concerns documented:

1. Replace stained ceiling tiles and thoroughly clean air vents in Classroom 18;

2. Replace stained ceiling tiles and thoroughly clean underneath the sink cabinet in Classroom 17.

Thank you for the opportunity to provide industrial hygiene services 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: 061909649
Customer ID: SALU50
Customer PO:
Project ID:

Attn: Indika Jayatilake
SaLUT
1818 New York Avenue, NE
Suite 218A
Washington, DC 20002

Phone: (301) 595-3783
Fax: (301) 595-3787
Collected: 05/15/2019
Received: 05/16/2019
Analyzed: 05/22/2019

Project: PGCPS IAQ/19-035 Brandywine ES - 14101 Brandywine Road

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

Lab Sample Number:	061909649-0001			061909649-0002			061909649-0003		
Client Sample ID:	27953600			27953028			27953056		
Volume (L):	75			75			75		
Sample Location	Inside Room 18 area			Inside Room 8 area			Inside Room 3 area		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	1*	10*	0.1	-	-	-	-	-	-
Ascospores	14	610	8.7	-	-	-	-	-	-
Aspergillus/Penicillium	11	480	6.8	-	-	-	-	-	-
Basidiospores	90	3900	55.6	3	100	90.9	7	300	100
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	44	1900	27.1	-	-	-	-	-	-
Curvularia	1*	10*	0.1	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	3	100	1.4	1*	10*	9.1	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Triadelphia	-	-	-	-	-	-	-	-	-
Total Fungi	**164**	**7010**	**100**	**4**	**110**	**100**	**7**	**300**	**100**
Hyphal Fragment	3	100	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	2	-	-	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

Initial report from: 05/23/2019 11:59:09

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

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

Lab Sample Number:	061909649-0004			061909649-0005			061909649-0006		
Client Sample ID:	27953050			27953075			27953022		
Volume (L):	75			75			75		
Sample Location	Inside Library area			Inside Cafeteria area			Inside Room 17 area		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	1*	10*	0.8	-	-	-	1*	10*	0.3
Ascospores	4	200	16.3	5	200	14.2	7	300	8.1
Aspergillus/Penicillium	3	100	8.1	2	90	6.4	13	570	15.4
Basidiospores	18	790	64.2	20	870	61.7	42	1800	48.8
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	1	40	1.1
Cladosporium	2	90	7.3	5	200	14.2	9	400	10.8
Curvularia	-	-	-	-	-	-	1	40	1.1
Epicoccum	-	-	-	-	-	-	1*	10*	0.3
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	1	40	3.3	1	40	2.8	11	480	13
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	1	40	1.1
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora++	-	-	-	-	-	-	-	-	-
Triadelphia	-	-	-	1*	10*	0.7	-	-	-
Total Fungi	**29**	**1230**	**100**	**34**	**1410**	**100**	**87**	**3690**	**100**
Hyphal Fragment	2	90	-	1	40	-	6	300	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	3	100	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	3	-	-	2	-	-	3	-
Fibrous Particulate (1-4)	-	2	-	-	2	-	-	3	-
Background (1-5)	-	2	-	-	2	-	-	3	-

++ 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: 05/23/2019 11:59:09

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Phone: (301) 595-3783
Fax: (301) 595-3787
Collected: 05/15/2019
Received: 05/16/2019
Analyzed: 05/22/2019

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

Lab Sample Number:	061909649-0007			061909649-0008		
Client Sample ID:	27953032			28394327		
Volume (L):	75					
Sample Location	Outside Exterior EV Sample			Field Blank		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-
Ascospores	24	1000	21.6	-	-	-
Aspergillus/Penicillium	1	40	0.9	-	-	-
Basidiospores	65	2800	60.3	-	-	-
Bipolaris++	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-
Cladosporium	15	660	14.2	-	-	-
Curvularia	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-
Myxomycetes++	3	100	2.2	-	-	-
Pithomyces++	-	-	-	-	-	-
Rust	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-
Cercospora++	1	40	0.9	-	-	-
Triadelphia	-	-	-	-	-	-
Total Fungi	**109**	**4640**	**100**	**-**	**No Trace**	**-**
Hyphal Fragment	1	40	-	-	-	-
Insect Fragment	-	-	-	-	-	-
Pollen	5*	70*	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	0	-
Analyt. Sensitivity 300x	-	13*	-	-	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

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: 05/23/2019 11:59:09

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OrderID: 061909649

Microbiology Chain of Custody

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

EMSL Order Number (*Lab Use Only*): 061909649

PHONE:
FAX:

Company Name: SaLUT Inc.		**EMSL-Bill to:** ☒ Same ☐ Different If Bill to is Different note instructions in Comments** *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: ijayatillake@salutinc.com		**Fax #:**	**Purchase Order:**
Project Number/Location: PGCPS IAQ/19-035 Brandywine ES		**Please Provide Results:** ☐ Fax ☒ Email	
Location Address: 14101 Brandywine Road		**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
M174 MoldSnap
M030 Micro 5
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: Dung Nguyen **Signature of Sampler:** DNguyen

Sample #	Sample Location/Description	Sample Type	Potable/ NonPotable (only for waters)	Test Code	Volume/ Area	Date/Time Collected	Temperature (°C) (Lab Use Only)
27953600	Inside Room 18 area	Air	☐P ☐NP	M001 (DA)	75L	5/15/2019	
27953028	Inside Room 8 area		☐P ☐NP	M001 (M)	75L		
27953056	Inside Room 3 area		☐P ☐NP	M001	75L		
27953050	Inside Library area		☐P ☐NP	M001	75L		
27953075	Inside Cafeteria area		☐P ☐NP	M001	75L		
27953022	Inside Room 17 area		☐P ☐NP	M001	75L		

Client Sample # (s): -
Total # of Samples: 8
Samples Received Chilled? Yes / No

Relinquished (Client): DNguyen **Date:** 5/15/2019 **Time:**
Received (Lab): [illegible] **Date:** 5/16/19 **Time:** ~~12~~ 1:20 pm

Comments/Special Instructions:

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5/22/19

EMSL ANALYTICAL, INC.
LABORATORY•PRODUCTS•TRAINING

Microbiology Chain of Custody

EMSL Order Number *(Lab Use Only)*: 061909649

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)
27953032	Outside Exterior EV Sample	Air	☐P ☐NP	M001	75L	5/15/2019	
28394327	Field Blank	Air	☐P ☐NP	N/A	N/A		
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
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Comments/Special Instructions:

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