Soil and Land Use Technology, Inc.
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Telephone: (301) 595-3783
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March 5, 2021

Prince George's County Public Schools
Environmental Safety Office
13306 Old Marlboro Pike
Upper Marlboro, MD 20772

Attention: Alex Baylor
alex.baylor@pgcps.org

Subject: Indoor Air Quality Survey
Kenilworth Elementary School
12520 Kembridge Drive,
Bowie, MD 20715

Mr. Baylor:

On December 2, 2020, and February 23, 2021 a Soil and Land Use Technology, Inc. (SaLUT) Industrial Hygienist conducted an indoor air quality (IAQ) evaluation at Kenilworth Elementary School, a property maintained by Prince George's County Public Schools (PGCPS) located at 12520 Kembridge Drive, Bowie, MD 20715. The inspection was performed in accordance with PGCPS contract number IFB 022-19.

Corrective Measures Implemented by PGPCS

On February 23, 2021, as part of this assessment, SaLUT conducted the IAQ evaluation, including IAQ instrumentation screening, and observations in affected areas. Prior to this assessment, in response to an initial assessment, DGS implemented the following corrective measures in all areas:

1. Identify and clearly assess the affected area;
2. Remove and replace moldy and stained ceiling tiles;
3. Thorough cleanup throughout the affected areas;
4. Operate air scrubbers with HEPA filters in the impacted areas;
5. Monitor and evaluate clean-up operation to determine effectiveness.

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.

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 Kenilworth Elementary School, visited on December 2, 2020, and February 23, 2021.

Table 1.1-Observations

Location	Summary of Observations 12-2-2020
Main Entrance Hallway	2'x4' ceiling tiles and 1'x1' tile floor; No visual signs of microbial growth; Mild odor; Stained ceiling tiles; No visible dust on floor/other furniture surfaces; No visible dust around ventilator; Central AC.
Between 107 and 110	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; No visible dust around ventilator; Central AC.
In front of Classroom 212	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; No visible dust around ventilator; Central AC.
In front of Classroom 201	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; No visible dust around ventilator; Central AC.

Location	Summary of Observations 12-2-2020
In front of the Library	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; No visible dust around ventilator; Central AC.
Outside Exterior EV Sample	Windy

Table 1.2-Observations

Location	Summary of Observations 02-23-2020
Main Entrance Hallway	2'x4' ceiling tiles and 1'x1' tile floor; No visual signs of microbial growth; Mild odor; Stained ceiling tiles; No visible dust on floor/other furniture surfaces; No visible dust around ventilator; Central AC.
Between 107 and 110	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; No visible dust around ventilator; Central AC.
In front of Classroom 212	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; No visible dust around ventilator; Central AC.
In front of Classroom 201	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; No visible dust around ventilator; Central AC.
In front of the Library	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; No visible dust around ventilator; Central AC.
Outside Exterior EV Sample	Windy

Measurements of Indoor Environmental Quality Parameters

Table 2 depicts a summary of average measurements of comfort.

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.

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 December 02, 2020, the outdoor (building exterior) CO_2 concentration was approximately 440 ppm therefore indoor concentrations should not exceed approximately 1,140 ppm (700 + 440). The maximum average interior CO_2 concentration detected was 721 ppm in the Main Entrance Hallway, a range within the ASHRAE recommendations, per Table 2.1 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 2.1 below.

Table 2.1: Kenilworth Elementary School, Instrumental Screening Levels December 2, 2020 (7:30 AM-9:30 AM)

Sample Location	Temp °F	RH%	CO ppm	CO_2 ppm
Standards	ASHRAE 68 to 75°F*	ASHRAE <65%	NAAQS 9	ASHRAE 1,140
Main Entrance Hallway	68.0	25.1	0	721
Between 107 and 110	70.0	23.7	0	529
In front of Classroom 201	74.7	22.0	0	489
In front of Classroom 212	74.8	24.7	0	620
In front of the Library	71.6	23.5	0	442
Outside Exterior EV Sample	53.6	22.5	0	440

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
* - Winter Comfort Range

Table 2.2: Kenilworth Elementary School, Instrumental Screening Levels February 23, 2021 (7:30 AM-9:30 AM)

Sample Location	Temp ^{0}F	RH%	CO ppm	CO_2 ppm
Standards	**ASHRAE 68 to 75°F***	**ASHRAE <65%**	**NAAQS 9**	**ASHRAE 1,140**
Main Entrance Hallway	64.4	33.6	0	545
Between 107 and 110	65.3	35.2	0	536
In front of Classroom 201	72.5	24.8	0	524
In front of Classroom 212	71.6	33.8	0	515
In front of the Library	63.5	31.8	0	520
Outside Exterior EV Sample	37.0	35.6	0	451

PM – Particulate Matter size **µg/m3 – micrograms per cubic meter**
°F – Degrees Fahrenheit **RH% - % Relative Humidity**
CO – Carbon Monoxide **CO2 – Carbon Dioxide**
ppm – parts per million* - **Winter 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 3.1: summarizes airborne mold spore sampling results and locations. On December 2, 2020, total mold counts in representative samples (spore count/m^3 of air) in all the areas inspected were higher than the outdoor concentrations. Laboratory analysis follows this report (see attachment).

Tables 3.2: Summarizes airborne mold spore sampling results and locations. On February 23, 2021, 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 3.1: Kenilworth Elementary School - Measurements of Mold-in-Air Samples December 2, 2020 (7:30 AM-9:30 AM)

Spore Types	Main Entrance Hallway	Between 107 and 110	In front of Classroom 201	In front of Classroom 212
Alternaria (Ulocladium)	-	-	-	-
Ascospores	40	30	10*	90
Aspergillus/Penicillium	1,700	16,000	4,500	3,600
Basidiospores	400	200	740	200
Bipolaris++	-	10*	-	-
Chaetomium	-	-	-	-
Cladosporium	520	90	200	300
Curvularia	-	-	-	-
Epicoccum	-	40	-	-
Fusarium	-	-	-	-
Ganoderma	-	-	-	-
Myxomycetes++	-	40	-	30
Pithomyces++	-	-	-	-
Rust	10*	-	-	-
Scopulariopsis/Microascus	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-
Unidentifiable Spores	-	-	-	-
Zygomycetes	-	-	-	-
Nigrospora	-	-	-	-
Hyphal Fragment	10*	-	90	90
Insect Fragment	-	90	10*	10*
Pollen	-	-	-	-
Total Fungi	**2,670**	**16,410**	**5,460**	**4,270**

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

Table 3.1: Kenilworth Elementary School
Measurements of Mold-in-Air Samples continued
December 2, 2020 (7:30 AM-9:30 AM)

Spore Types	In front of the Library	Outside EXT EV sample	Field Blank
Alternaria (Ulocladium)	10*	-	-
Ascospores	-	-	-
Aspergillus/Penicillium	8,470	200	-
Basidiospores	200	1,200	-
Bipolaris++	-	-	-
Chaetomium	-	-	-
Cladosporium	610	100	-
Curvularia	-	-	-
Epicoccum	-	40	-
Fusarium	-	-	-
Ganoderma	-	-	-
Myxomycetes++	40	40	-
Pithomyces++	-	40	-
Rust	-	-	-
Scopulariopsis/Microascus	-	-	-
Stachybotrys/Memnoniella	-	-	-
Unidentifiable Spores	-	-	-
Zygomycetes	-	-	-
Nigrospora	-	-	-
Hyphal Fragment	90	-	-
Insect Fragment	40	-	-
Pollen	-	-	-
Total Fungi	**9,370**	**1,660**	**No Trace**

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

Table 3.2: Kenilworth Elementary School

Measurements of Mold-in-Air Samples
February 23, 2021 (7:30 AM-9:30 AM)

Spore Types	Main Entrance Hallway	Between 107 and 110	In front of Classroom 201	In front of Classroom 212
Alternaria (Ulocladium)	-	-	-	-
Ascospores	-	-	-	-
Aspergillus/Penicillium	-	-	100	40
Basidiospores	200	40	100	200
Bipolaris++	-	-	-	-
Chaetomium	-	-	-	-
Cladosporium	-	-	90	440
Curvularia	-	-	-	-
Epicoccum	-	-	10*	-
Fusarium	-	-	-	-
Ganoderma	-	-	-	-
Myxomycetes++	-	-	40	-
Pithomyces++	-	-	40	-
Rust	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-
Unidentifiable Spores	-	-	-	-
Zygomycetes	-	-	-	-
Nigrospora	-	-	-	-
Hyphal Fragment	-	-	10*	-
Insect Fragment	-	-	40	-
Pollen	-	-	40*	-
Total Fungi	**200**	**40**	**380**	**680**

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

Table 3.2: Kenilworth Elementary School

Measurements of Mold-in-Air Samples
February 23, 2021 (7:30 AM-9:30 AM)

Spore Types	In front of the Library	Outside EXT EV sample	Field Blank
Alternaria (Ulocladium)	-	-	-
Ascospores	10*	40	-
Aspergillus/Penicillium	90	-	-
Basidiospores	300	870	-
Bipolaris++	-	-	-
Chaetomium	-	-	-
Cladosporium	40*	40	-
Curvularia	-	-	-
Epicoccum	--	-	-
Fusarium	-	-	-
Ganoderma	-	-	-
Myxomycetes++	-	-	-
Pithomyces++	-	-	-
Rust	-	-	-
Scopulariopsis/Microascus	-	-	-
Stachybotrys/Memnoniella	-	-	-
Unidentifiable Spores	-	-	-
Zygomycetes	-	-	-
Nigrospora	-	-	-
Hyphal Fragment	-	10*	-
Insect Fragment	-	10*	-
Pollen	-	-	-
Total Fungi	**450**	**950**	**No Trace**

Findings and Conclusions

The comfort parameters (i.e., temperature, RH, CO_2, and CO levels) in the representative areas conform to ASHRAE and/or NAAQS guidelines. On December 2, 2020, total mold counts in representative area samples (spore count/m^3 of air) in all the areas inspected were higher than the outdoor concentrations, indicating amplified mold growth.

On February 23, 2021, total mold counts in air samples (spore count/m3 of air) in the cafeteria were significantly lower than the outdoor concentrations, indicating no amplified mold growth. Based on the observations, mold spore results, and the results of the indoor air quality parameters tested, the corrective actions implemented were determined to be effective.

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.

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Project ID:

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Project: 19-085 Kenilworth ES

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Fax: (301) 595-3787
Collected Date: 12/02/2020
Received Date: 12/02/2020 02:58 PM
Analyzed Date: 12/04/2020

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

Lab Sample Number:	192011878-0001			192011878-0002			192011878-0003		
Client Sample ID:	S1			S2			S3		
Volume (L):	75			75			75		
Sample Location:	Hallway Main entrance			Between 110 and 107			In front of CR 212		
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	1.5	2*	30*	0.2	2	90	2.1
Aspergillus/Penicillium	38	1700	63.7	367	16000	97.5	83	3600	84.3
Basidiospores	9	400	15	5	200	1.2	4	200	4.7
Bipolaris++	-	-	-	1*	10*	0.1	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	12	520	19.5	2	90	0.5	6	300	7
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	1	40	0.2	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	1	40	0.2	2*	30*	0.7
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	1*	10*	0.4	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	1*	10*	0.2
Oidium	-	-	-	-	-	-	-	-	-
Pestalotia/Pestalotiopsis	-	-	-	-	-	-	1	40	0.9
Total Fungi	**61**	**2670**	**100**	**379**	**16410**	**100**	**99**	**4270**	**100**
Hyphal Fragment	1*	10*	-	-	-	-	2	90	-
Insect Fragment	-	-	-	2	90	-	1*	10*	-
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	-	-	1	-

192011878-0003 - Aspergillus conidiophores present in sample.

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

Abubakar Barry, Microbiology Laboratory Manager
or other Approved Signatory

Initial report from: 12/05/2020 03:32 PM

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

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Collected Date: 12/02/2020
Received Date: 12/02/2020 02:58 PM
Analyzed Date: 12/04/2020

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

Lab Sample Number:	192011878-0004			192011878-0005			192011878-0006		
Client Sample ID:	S4			S5			S6		
Volume (L):	75			75			75		
Sample Location:	In front of CR 201			In front of the Library			Outside		
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	1*	10*	0.2	-	-	-	-	-	-
Aspergillus/Penicillium	103	4500	82.4	194	8470	90.4	4	200	12
Basidiospores	17	740	13.6	4	200	2.1	27	1200	72.3
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	4	200	3.7	14	610	6.5	3	100	6
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	1	40	2.4
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	1	40	0.4	1	40	2.4
Pithomyces++	-	-	-	-	-	-	1	40	2.4
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	1	40	2.4
Oidium	-	-	-	1	40	0.4	-	-	-
Pestalotia/Pestalotiopsis	1*	10*	0.2	-	-	-	-	-	-
Total Fungi	**126**	**5460**	**100**	**215**	**9370**	**100**	**38**	**1660**	**100**
Hyphal Fragment	2	90	-	2	90	-	-	-	-
Insect Fragment	1*	10*	-	1	40	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	3	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

192011878-0004 - Penicillium/Talaromyces-like conidiophores present in sample.
192011878-0005 - Aspergillus conidiophores present in sample.

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

Abubakar Barry, Microbiology Laboratory Manager
or other Approved Signatory

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Received Date: 12/02/2020 02:58 PM
Analyzed Date: 12/04/2020

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

Lab Sample Number:	**192011878-0007**		
Client Sample ID:	**S7**		
Volume (L):			
Sample Location:	**Field blank**		
Spore Types	**Raw Count**	**Count/M³**	**% of Total**
Alternaria (Ulocladium)	-	-	-
Ascospores	-	-	-
Aspergillus/Penicillium	-	-	-
Basidiospores	-	-	-
Bipolaris++	-	-	-
Chaetomium	-	-	-
Cladosporium	-	-	-
Curvularia	-	-	-
Epicoccum	-	-	-
Fusarium	-	-	-
Ganoderma	-	-	-
Myxomycetes++	-	-	-
Pithomyces++	-	-	-
Rust	-	-	-
Scopulariopsis/Microascus	-	-	-
Stachybotrys/Memnoniella	-	-	-
Unidentifiable Spores	-	-	-
Zygomycetes	-	-	-
Arthrinium	-	-	-
Oidium	-	-	-
Pestalotia/Pestalotiopsis	-	-	-
Total Fungi	**-**	**No Trace**	**-**
Hyphal Fragment	-	-	-
Insect Fragment	-	-	-
Pollen	-	-	-
Analyt. Sensitivity 600x	-	0	-
Analyt. Sensitivity 300x	-	0*	-
Skin Fragments (1-4)	-	-	-
Fibrous Particulate (1-4)	-	-	-
Background (1-5)	-	-	-

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

Abubakar Barry, Microbiology Laboratory Manager or other Approved Signatory

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Received Date: 02/23/2021 02:37 PM
Analyzed Date: 02/25/2021

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

Lab Sample Number:	192101599-0001			192101599-0002			192101599-0003		
Client Sample ID:	3019 9819			3019 9837			3019 9853		
Volume (L):	75			75			75		
Sample Location:	Hallway Main entrance			Between 110 & 107			In front of CR 212		
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	-	-	-	-	-	-	3	100	26.3
Basidiospores	4	200	100	1	40	100	3	100	26.3
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	2	90	23.7
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	1*	10*	2.6
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	1	40	10.5
Pithomyces++	-	-	-	-	-	-	1	40	10.5
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Bispora	-	-	-	-	-	-	-	-	-
Total Fungi	**4**	**200**	**100**	**1**	**40**	**100**	**11**	**380**	**100**
Hyphal Fragment	-	-	-	-	-	-	1*	10*	-
Insect Fragment	-	-	-	-	-	-	1	40	-
Pollen	-	-	-	-	-	-	3*	40*	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
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.

Abubakar Barry, Microbiology Laboratory Manager or other Approved Signatory

Initial report from: 02/25/2021 05:03 PM

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

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705

Tel/Fax: (301) 937-5700 / (301) 937-5701

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

EMSL Order: 192101599
Customer ID: SALU50
Customer PO:
Project ID:

Attention: Indika Jayatilake
SaLUT
1818 New York Avenue, NE
Suite 231
Washington, DC 20002
Project: PGPCS IAQ Reports 19-035 Kenilworth Elementary School

Phone: (301) 595-3783
Fax: (301) 595-3787
Collected Date: 02/23/2021
Received Date: 02/23/2021 02:37 PM
Analyzed Date: 02/25/2021

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

Lab Sample Number:	192101599-0004			192101599-0005			192101599-0006		
Client Sample ID:	3019 9822			3019 9815			3019 9825		
Volume (L):	75			75			75		
Sample Location:	In front of CR 201			In front of library			Outside		
Spore Types	**Raw Count**	**Count/M³**	**% of Total**	**Raw Count**	**Count/M³**	**% of Total**	**Raw Count**	**Count/M³**	**% of Total**
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	1*	10*	2.2	1	40	4.2
Aspergillus/Penicillium	1	40	5.9	2	90	20	-	-	-
Basidiospores	5	200	29.4	8	300	66.7	20	870	91.6
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	10	440	64.7	3*	40*	8.9	1	40	4.2
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Bispora	-	-	-	1*	10*	2.2	-	-	-
Total Fungi	**16**	**680**	**100**	**15**	**450**	**100**	**22**	**950**	**100**
Hyphal Fragment	-	-	-	-	-	-	1*	10*	-
Insect Fragment	-	-	-	-	-	-	1*	10*	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	44	-	-	44	-	-	44	-
Analyt. Sensitivity 300x	-	13*	-	-	13*	-	-	13*	-
Skin Fragments (1-4)	-	1	-	-	2	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	1	-

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

Abubakar Barry, Microbiology Laboratory Manager or other Approved Signatory

Initial report from: 02/25/2021 05:03 PM

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

EMSL Analytical, Inc.

10768 Baltimore Avenue Beltsville, MD 20705

Tel/Fax: (301) 937-5700 / (301) 937-5701

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

EMSL Order: 192101599
Customer ID: SALU50
Customer PO:
Project ID:

Attention: Indika Jayatilake
SaLUT
1818 New York Avenue, NE
Suite 231
Washington, DC 20002
Project: PGPCS IAQ Reports 19-035 Kenilworth Elementary School

Phone: (301) 595-3783
Fax: (301) 595-3787
Collected Date: 02/23/2021
Received Date: 02/23/2021 02:37 PM
Analyzed Date: 02/25/2021

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

Lab Sample Number:	**192101599-0007**								
Client Sample ID:	**3019 9818**								
Volume (L):									
Sample Location:	**Field Blank**								
Spore Types	**Raw Count**	**Count/M³**	**% of Total**						
Alternaria (Ulocladium)	-	-	-						
Ascospores	-	-	-						
Aspergillus/Penicillium	-	-	-						
Basidiospores	-	-	-						
Bipolaris++	-	-	-						
Chaetomium	-	-	-						
Cladosporium	-	-	-						
Curvularia	-	-	-						
Epicoccum	-	-	-						
Fusarium	-	-	-						
Ganoderma	-	-	-						
Myxomycetes++	-	-	-						
Pithomyces++	-	-	-						
Rust	-	-	-						
Scopulariopsis/Microascus	-	-	-						
Stachybotrys/Memnoniella	-	-	-						
Unidentifiable Spores	-	-	-						
Zygomycetes	-	-	-						
Bispora	-	-	-						
Total Fungi	**-**	**No Trace**	**-**						
Hyphal Fragment	-	-	-						
Insect Fragment	-	-	-						
Pollen	-	-	-						
Analyt. Sensitivity 600x	-	0	-						
Analyt. Sensitivity 300x	-	0*	-						
Skin Fragments (1-4)	-	-	-						
Fibrous Particulate (1-4)	-	-	-						
Background (1-5)	-	-	-						

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

Abubakar Barry, Microbiology Laboratory Manager or other Approved Signatory

Initial report from: 02/25/2021 05:03 PM

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

OrderID: 192011878

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Microbiology Chain of Custody

EMSL Order Number *(Lab Use Only)*: 192011878

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX:(856) 786-0262

Company Name: Salut Inc	**EMSL-Bill to:** ☐ Same ☐ Different If Bill to is Different note instructions in Comments
Street: 1818 New York Ave NE Suite 231	*Third Party Billing requires written authorization from third party.*
City: Washington **State/Province:** DC	**Zip/Postal Code:** **Country:**
Report To (Name): Indika Jayatilake	**Telephone #:**
Email Address: ijayatilake@salutinc.com	**Fax #:** **Purchase Order:**
Project Name/Number: 19-085 -Kenilworth ES	**Please Provide Results:** ☐ Fax ☐ Email
U.S. State Samples Taken: MD **Project Zip Code:** 20785	**Connecticut Samples:** ☐ Commercial ☐ Residential
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: Sheral 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)
Example A1	Kitchen Sink/Tap	Water	☒ P ☐ NP	M017	100 mL	9/1/13 4:00 PM	
S1	Hallway main entrance	Air	☐ P ☐ NP	M001	75 mL	12/02/26	
S2	Between 110 and 107	"	☐ P ☐ NP	"	"	"	
S3	In front of CR 212	"	☐ P ☐ NP	"	"	"	
S4	In front of CR 201	"	☐ P ☐ NP	"	"	"	
S5	In front of the Library	"	☐ P ☐ NP	"	"	"	

Client Sample # (s): - **Total # of Samples:** 7 **Samples Received Chilled?** (Lab Use Only) Yes / No

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

Received (Lab): **Date:** **Time:**

Comments/Special Instructions:

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OrderID: 192011878

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Microbiology Chain of Custody

EMSL Order Number *(Lab Use Only)*:

192011878

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX:(856) 786-0262

Additional pages of the chain of custody are only necessary if needed for additional sample information.

Sample #	Sample Location/Description	Sample Type	Potable/ NonPotable (Only for Waters)	Test Code	Volume/ Area	Date/Time Collected	Temperature (°C) (Lab Use Only)
S6	Outside	Air	☐P ☐NP	M001	75ml	12/02/20	
S7	Field blank	"	☐P ☐NP	"	"	"	
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
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			☐P ☐NP				

Comments/Special Instructions:

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OrderID: 192101599

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Microbiology Chain of Custody

EMSL Order Number (*Lab Use Only*): 192101599

10768 Baltimore Avenue
Beltsville, MD 20705
PHONE: (301) 937-5700
FAX: (301) 937-5701

Company Name: SaLUT	**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 Avenue, NE Suite 231	
City: Washington **State/Province:** DC	**Zip/Postal Code:** 20002 **Country:** US
Report To (Name): Indika Jayatilake	**Telephone #:** 301-595-3783
Email Address: ijayatilake@salutinc.com	**Fax #:** 301-595-3787 **Purchase Order:**
Project Name/Number: PGPCS IAQ Reports 19-035 KENILWORTH ELEMENTARY SCHOOL	**Please Provide Results:** ☐ Fax ☑ Email
U.S. State Samples Taken: MD **Project Zip Code:**	**Connecticut Samples:** ☐ Commercial ☐ Residential

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: Rahul Ekanayake **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)
Example A1	Kitchen Sink/Tap	Water	☒ P ☐ NP	M017	100 mL	9/1/13 4:00 PM	
3019 9819	Hallway Main Entrance	Air	☐ P ☐ NP	M001	75L	2123121 09:16	
3019 9837	Between 110 & 107	Air	☐ P ☐ NP	M001	75L	2/23/21 09:21	
3019 9853	Infront of CR 212	Air	☐ P ☐ NP	M001	75L	02/23/21 09:31	
3019 9822	Infront of CR 201	Air	☐ P ☐ NP	M001	75L	02/23/21 09:37	
3019 9815	Infront of library	Air	☐ P ☐ NP	M001	75L	2/23/21 09:43	

Client Sample # (s): - 07 **Total # of Samples:** 07 **Samples Received Chilled?** Yes / No (Lab Use Only)

Relinquished (Client): Rahul Ekanayake **Date:** 02/23/21 **Time:** 2.00 P.M

Received (Lab): **Date:** **Time:**

Comments/Special Instructions:

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EMSL ANALYTICAL, INC.
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Microbiology Chain of Custody

EMSL Order Number *(Lab Use Only)*: 192101599

EMSL Analytical, Inc.
10768 Baltimore Avenue
Beltsville, MD 20705
PHONE: (301) 937-5700
FAX: (301) 937-5701

Additional pages of the chain of custody are only necessary if needed for additional sample information.

Sample #	Sample Location/Description	Sample Type	Potable/ NonPotable (Only for Waters)	Test Code	Volume/ Area	Date/Time Collected	Temperature (°C) (Lab Use Only)
3019 9825	Outside	Air	☐P ☐NP	M001	75L	02/23/21 09:48	
3019 9818	field Blank	Air	☐P ☐NP	M001	N/A	02/23/21 09:54	
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
			☐P ☐NP				
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			☐P ☐NP				
			☐P ☐NP				

Comments/Special Instructions:

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