

Soil and Land Use Technology, Inc. 1818 New York Ave. NE, Ste 231, Washington, DC 20002

Telephone: (301) 595-3783 www.salutinc.com

June 18, 2019

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

- Attention: Alex Baylor <u>alex.baylor@pgcps.org</u>
- Subject: Indoor Air Quality Survey Rosa L. Parks Elementary School 6111 Ager Road Hyattsville, MD 20782

Mr. Baylor:

On May 22, 2019, a Soil and Land Use Technology, Inc. (SaLUT) Industrial Hygienist conducted an indoor air quality (IAQ) evaluation at Rosa L. Parks Elementary School, a property maintained by Prince George's County Public Schools (PGCPS) located at 6111 Ager Road, Hyattsville, MD 20782. The inspection was performed in accordance with PGCPS contract number IFB 022-19.

<u>Methodology</u>

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 3000photoionization 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 Rosa L. Parks Elementary School, visited on May 22, 2019.

Location	Summary of Observations 5-22-2019
Office Room	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.
Multipurpose Room	2'x4' ceiling tiles and 1'x1' tile floor;
	Dusty air vents, and mild odor;
	No visible dust on floor/other furniture surfaces.
Computer Lab	2'x4' ceiling tiles and 1'x1' tile floor;
	Dusty air vents, and mild odor;
	No visible dust on floor/other furniture surfaces.
Media Center	2'x4' ceiling tiles and 1'x1' tile floor;
	Dusty air vents, and mild odor;
	No visible dust on floor/other furniture surfaces.
Classroom 205	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.
Classroom 219	2'x4' ceiling tiles and 1'x1' tile floor;
	One stained ceiling tile;
	No visual signs of microbial growth, and no odor.
Classrooms throughout the	No visual signs of microbial growth, and no odor;
Building	No visible dust on floor/other furniture surfaces.

Table 1-Observations

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.



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 (CO₂)

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 591 ppm therefore indoor concentrations should not exceed approximately 1,291 ppm (700 + 591). The maximum average interior CO_2 concentration detected was 1,109 ppm in Classroom 219, 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 22, 2019, the highest average PM2.5 concentration during the monitoring period was 0.003 mg/m³ (3 μ g/m³) in the Multipurpose Room. This is compared to the NAAQS primary standard for PM2.5 of 12 μ g/m³ annual mean. The highest average PM10 concentration during the same period was 0.034 mg/m³ (34 μ g/m³) in the Multipurpose Room. This is compared to NAAQS standard for PM10 of 150 μ g/m³ 24 hour average.

Total Volatile Organic Chemicals (TVOC)

LEED's standard of 500 μ g/m³ 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 μ g/m³ 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.

		Iviay	22, 2019				
	Temp		CO	CO ₂	PM 2.5	PM 10	TVOC
Sample Location	0 F	RH%	ppm	ppm	mg/m ³	mg/m ³	ppm
	ASHRAE	ASHRAE	NAAQS	ASHRAE	NAAQS	NAAQS	1.0
Standards	73 to 79°F*	<65%	9	1,291	0.012	0.150	1.0
Main Office	77.9	43.6	0	825	0.002	0.021	0
Multi-Purpose Room	75.2	40.6	0	679	0.003	0.034	0.1
Computer Lab	76.1	41.6	0	495	0.001	0.024	0.1
Media Center	74.3	42.6	0	764	0.002	0.031	0
Classroom 205	74.3	50.4	0	1090	0.001	0.021	0
Classroom 219	74.3	57.4	0	1109	0.002	0.028	0
Exterior of the Building							
Next to the entrance	66.9	53.9	0	591	0.003	0.031	0.1

Table 2: Rosa L. Parks Elementary School Instrumental Screening Levels May 22, 2019

PM – Particulate Matter size °F – Degrees Fahrenheit CO – Carbon Monoxide ppm – parts per million

µg/m³ – micrograms per cubic meter RH% - % Relative Humidity CO₂ – 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 22, 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: Rosa L. Parks Elementary School - Measurements of Mold-in-Air SamplesMay 22, 2019

Spore Types	Office Room	Multi-Purpose Room	Computer Lab	Media Center
Alternaria (Ulocladium)	-	40	-	40
Ascospores	-	480	920	570
Aspergillus/Penicillium	200	100	100	90
Basidiospores	300	960	2600	1,500
Bipolaris++	-	-	-	-
Chaetomium	-	-	-	-
Cladosporium	200	200	400	610
Curvularia	40	-	-	30*
Epicoccum	-	-	-	-
Fusarium	-	-	-	-
Ganoderma	-	40	-	-
Myxomycetes++	-	-	10*	-
Pithomyces++	-	-	-	-
Rust	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-
Unidentifiable Spores	-	-	-	-
Aureobasidium	-	-	-	-
Bispora	-	-	-	-
Oidium	-	-	-	-
Pestalotia/Pestalotiopsis	-	-	40	-
Phaeotrichoconis	-	-	-	10*
Torula-like	-	-	-	-
Hyphal Fragment	40	-	100	40
Insect Fragment	-	-	-	40
Pollen	40	-	-	10*
Total Fungi	740	1,820	4070	2,850

*Spore Counts per cubic meter of air (Counts/m³).

++Includes other spores with similar morphology.



Table 3: Rosa L. Parks Elementary School - Measurements of Mold-in-Air Samples continued

	Ν	/Iay 22, 2019		
Spore Types	Exterior of School	Classroom 205	Classroom 219	Field Blank
Alternaria (Ulocladium)	90	-	40	-
Ascospores	1,100	40	-	-
Aspergillus/Penicillium	300	200	100	-
Basidiospores	1,900	300	40	-
Bipolaris++	-	-	-	-
Chaetomium	-	-	40	-
Cladosporium	1,600	300	400	-
Curvularia	-	-	90	-
Epicoccum	100	-	40	-
Fusarium	-	-	-	-
Ganoderma	-	-	-	-
Myxomycetes++	100	-	10*	-
Pithomyces++	-	-	-	-
Rust	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-
Unidentifiable Spores	40	40	-	-
Aureobasidium	-	-	10*	-
Bispora	-	40	300	-
Oidium	40	-	-	-
Pestalotia/Pestalotiopsis	-	-	-	-
Phaeotrichoconis	-	-	-	-
Torula-like	1,000	-	-	-
Hyphal Fragment	200	-	90	-
Insect Fragment	90	-	-	-
Pollen	830	40	90	-
Total Fungi	6,270	920	1,070	No Trace

*Spore Counts per cubic meter of air (Counts/m³).

++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 representative areas conform to ASHRAE and/or NAAQS guidelines. On May 22, 2019, total mold counts in representative area samples (spore count/m³ 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 Rosa L. Parks Elementary School, SaLUT recommends the following measures to address the indoor air quality concerns documented:

1. Thoroughly clean air vents in the Multipurpose Room, Computer Lab, and Media Center.

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,

Firthtake.

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:	061909886
Customer ID:	SALU50
Customer PO:	
Project ID:	

Attn: Indika Jayatilake	Phone:	(301) 595-3783
SaLUT	Fax:	(301) 595-3787
1818 New York Avenue, NE	Collected:	05/21/2019
Suite 218A	Received:	05/22/2019
Washington, DC 20002	Analyzed:	05/24/2019

Project: PGCPS IAQ/19-035 Rosa Parks ES, 6111 Ager Road, Hyattsville, MD 20782

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)									
Lab Sample Number: Client Sample ID: Volume (L): Sample Location	061909886-0001 2839-4289 75 Office Room		nple ID: 2839-4289 2839-4289 Jime (L): 75 75			061909886-0003 2839-4320 75 Media Centre			
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
Alternaria (Ulocladium)	-	-	-	1	40	2.2	1	40	1.4
Ascospores	-	-	-	11	480	26.4	13	570	20
Aspergillus/Penicillium	5	200	27	3	100	5.5	2	90	3.2
Basidiospores	6	300	40.5	22	960	52.7	35	1500	52.6
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	5	200	27	5	200	11	14	610	21.4
Curvularia	1	40	5.4	-	-	-	2*	30*	1.1
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	1	40	2.2	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Aureobasidium	-	-	-	-	-	-	-	-	-
Bispora	-	-	-	-	-	-	-	-	-
Oidium	-	-	-	-	-	-	-	-	-
Pestalotia/Pestalotiopsis	-	-	-	-	-	-	-	-	-
Phaeotrichoconis	-	-	-	-	-	-	1*	10*	0.4
Torula-like	-	-	-	-	-	-	-	-	-
Total Fungi	17	740	100	43	1820	100	68	2850	100
Hyphal Fragment	1	40	-	-	-	-	1	40	-
Insect Fragment	-	-	-	-	-	-	1	40	-
Pollen	1	40	-	-	-	-	1*	10*	-
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	-	-	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 othewise noted.

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

Initial report from: 05/26/2019 15:30:48

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

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Project: PGCPS IAQ/19-035 Rosa Parks ES, 6111 Ager Road, Hyattsville, MD 20782

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)								
061909886-0004 2839-4328 75 Computer Lab		mple ID: 2839-4328 2839-4301 ume (L): 75 75		5	061909886-0006 2839-4334 75 Room 219			
Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total
-	-	-	-	-	-	1	40	3.7
21	920	22.6	1	40	4.3	-	-	-
3	100	2.5	4	200	21.7	3	100	9.3
60	2600	63.9	7	300	32.6	1	40	3.7
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	1	40	3.7
9	400	9.8	6	300	32.6	9	400	37.4
-	-	-	-	-	-	2	90	8.4
-	-	-	-	-	-	1	40	3.7
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
1*	10*	0.2	-	-	-	1*	10*	0.9
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	1	40	4.3	-	-	-
-	-	-	-	-	-	1*	10*	0.9
-	-	-	1	40	4.3	7	300	28
-	-	-	-	-	-	-	-	-
1	40	1	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
95	4070	100	20	920	100	27	1070	100
3	100	-	-	-	-	2	90	-
-	-	-	-	-	-	-	-	-
-	-	-	1	40	-	2	90	-
-	44	-	-	44	-	-	44	-
-	13*	-	-	13*	-	-	13*	-
-	1	-	-	2	-	-	2	-
-	1	-	-	1	-	-	2	-
-	1	-	-	1	-	-	3	-
	Raw Count - 21 3 60 - 9 - 9 - 1 - 1* - 1* - 1* - - 1* -	061909886-0004 2839-4328 75 Computer Lab Raw Count Count/m³ Count/m³ Count/m³ 21 920 3 100 60 2600 - - 21 920 3 100 60 2600 - - 9 400 - - 9 400 - - 9 400 - - 9 400 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	061909886-0004 2839-4328 75 Computer Lab Raw Count % of Total - - 21 920 22.6 3 100 2.5 60 2600 63.9 - - - 9 400 9.8 - - - 9 400 9.8 - - - 9 400 9.8 - - - 9 400 9.8 - - - 9 400 9.8 - - - 10 0.2 - - - - 11* 10* 0.2 - - - - - - - - - - - - - - - - -	061909886-0004 2839-4328 75 75 Computer Lab Raw Count Count/m³ % of Total Raw Count - - - - 21 920 22.6 1 3 100 2.5 4 60 2600 63.9 7 - - - - 9 400 9.8 6 - - - - 9 400 9.8 6 - - - - 9 400 9.8 6 - - - - 1 10* 0.2 - - - - - - - - - - - - - 9 400 0.2 - - - - - - - - - <td< td=""><td>061909886-0004 2839-4328 061909886-0005 2839-4301 75 Computer Lab 75 Raw Count Count/m³ % of Total Raw Count Count/m³ - - - - - - 21 920 22.6 1 40 3 100 2.5 4 200 60 2600 63.9 7 300 - - - - - 9 400 9.8 6 300 - - - - - 9 400 9.8 6 300 - - - - - - - - - - - - - - - 1* 10* 0.2 - - - - - - - - - - - - - -</td></td<> <td>061909886-0004 2839-4328 061909886-0005 2839-4301 75 Computer Lab 75 Room 205 Raw Count Count/m³ % of Total Raw Count Count/m³ % of Total - - - - - - - 21 920 22.6 1 40 4.3 3 100 2.5 4 200 21.7 60 2600 63.9 7 300 32.6 - - - - - - 9 400 9.8 6 300 32.6 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -<td>061909886-0004 2839-4328 75 Computer Lab 061909886-0005 2839-4301 75 Room 205 Result of the test of t</td><td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td></td>	061909886-0004 2839-4328 061909886-0005 2839-4301 75 Computer Lab 75 Raw Count Count/m³ % of Total Raw Count Count/m³ - - - - - - 21 920 22.6 1 40 3 100 2.5 4 200 60 2600 63.9 7 300 - - - - - 9 400 9.8 6 300 - - - - - 9 400 9.8 6 300 - - - - - - - - - - - - - - - 1* 10* 0.2 - - - - - - - - - - - - - -	061909886-0004 2839-4328 061909886-0005 2839-4301 75 Computer Lab 75 Room 205 Raw Count Count/m³ % of Total Raw Count Count/m³ % of Total - - - - - - - 21 920 22.6 1 40 4.3 3 100 2.5 4 200 21.7 60 2600 63.9 7 300 32.6 - - - - - - 9 400 9.8 6 300 32.6 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - <td>061909886-0004 2839-4328 75 Computer Lab 061909886-0005 2839-4301 75 Room 205 Result of the test of t</td> <td>$\begin{array}{c c c c c c c c c c c c c c c c c c c$</td>	061909886-0004 2839-4328 75 Computer Lab 061909886-0005 2839-4301 75 Room 205 Result of the test of t	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

++ 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: 05/26/2019 15:30:48

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

MIC_M001_0002_0001 1.71 Printed: 05/26/2019 15:30 PM



EMSL Analytical, Inc.

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Suite 218A

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Project ID:	

Phone:	(301) 595-3783
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Collected:	05/21/2019
Received:	05/22/2019
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Project: PGCPS IAQ/19-035 Rosa Parks ES, 6111 Ager Road, Hyattsville, MD 20782

Test Repo	ort: Air-O-Cell(™	Analysis of F	ungal Spores &	Particulates by	Optical Microso	copy (Methods N	MICRO-SOP-201	, ASTM D7391)	
Lab Sample Number: Client Sample ID: Volume (L): Sample Location	061909886-0007 2839-4333 75 Outside Exterior EV Sample EV Sample			061909886-0008 2839-4319 Field Blank					
Spore Types	Raw Count	Count/m ³	% of Total	Raw Count	Count/m ³	% of Total			
Alternaria (Ulocladium)	2	90	1.4		-				
Ascospores	25	1100	17.5	-	-	-	-		
Aspergillus/Penicillium	6	300	4.8	-	-	-	-		
Basidiospores	44	1900	30.3	-	-	-	-		
Bipolaris++	-	-	-	-	-	-	-		
Chaetomium	-	-	-	-	-	-	-		
Cladosporium	37	1600	25.5	-	-	-			
Curvularia	-	-	-	-	-	-	-		
Epicoccum	3	100	1.6	-	-	-	-		
- Fusarium	-	-	-	-	-	-	-		
Ganoderma	-	-	-	-	-	-	-		
Myxomycetes++	3	100	1.6	-	-	-	-		
Pithomyces++	-	-	-	-	-	-	-		
Rust	-	-	-	-	-	-	-		
Scopulariopsis/Microascus	-	-	-	-	-	-	-		
Stachybotrys/Memnoniella	-	-	-	-	-	-	-		
Unidentifiable Spores	1	40	0.6	-	-	-	-		
Aureobasidium	-	-	-	-	-	-			
Bispora	-	-	-	-	-	-			
Oidium	1	40	0.6	-	-	-			
Pestalotia/Pestalotiopsis	-	-	-	-	-	-			
Phaeotrichoconis	-	-	-	-	-	-			
Torula-like	23	1000	15.9	-	-	-			
Total Fungi	145	6270	100	-	No Trace	-			
Hyphal Fragment	5	200	-	-	-	-			
Insect Fragment	2	90	-	-	-	-			
Pollen	19	830	-	-	-	-			
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 othewise noted.

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

Initial report from: 05/26/2019 15:30:48

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

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			tin of Cust						
EMSL ANALYTICA		1909	,886		PHONE: Fax:	:			
Company Name: S	EMSL-Bill to: Same Different								
Street: 1818 New	Third Party Billing requires written authorization from third party								
City: Washington		Zip/Postal Code:20002 Country: USA							
Report To (Name):	State/Province:DC		Telephone #:301-595-3783						
	yatillake@salutinc.com	Fax #:				Purchase Order:			
	ation: PGCPS IAQ/19-035 Rosa F				:] Fax 🔳 Email				
	111 Ager Road, Hyattsville, MD 2		1			Commercial C	esidential		
*Analysis completed i	n accordance with EMSL's Terms and C	onditions located	in the Analytical Pl	rice Guide. T	TATs are sub				
	Sodium Thiosulfate Preserved Bo			· · ·					
Public V	Nater Supply Samples: 🗌 Note: A		-	-	to DOH if	required by stat	ie.		
3 Hour	Turnaround	d Time (TAT) O	ptions * - Pleas	1	Hour	🔳 1 Week	2 Week		
		Microbiology			Tioul	I I AAGGY			
M001 Air-O-Cell	M174 MoldSnap	M024 Pseudor	nonas aeruginosa			age Screen - Wate	• •		
M030 Micro 5	M032 Allergenco-D		ophic Plate Count Iliform & E. coli (Co						
M041 Fungal Direct E		P/A***)	•		M013 Sewage Screen - Swab (MFT*)				
M169 Pollen ID & Enu M280 Dust Characteri			lliform & E. coli (M lliform & E. coli En				pn. aureus		
M281 Dust Characteri	ization Level-2	(Colilert MPN*) M019 Fecal Co		M031 Rapid-growing non-TB Mycobacteria Detection & Enumeration			Mycobacteria		
	ir Samples (Genus ID & Count) ir Samples (Includes <i>Penicillium</i> ,	M020 Fecal St	reptococcus (MFT	*) M014 Endotoxin Analysis					
Aspergillus, Cladospo	rium, Stachybotrys Species ID & Count)	M029 Enteroco M129 Enteroco	occi (MF i*) occi (Enterolert P//	M044 Group Allergen (Cat, Dog, Cockroach, Dust Mite)					
M008 Culturable fungi	i - Surface Samples (Genus ID & Count) i - Surface Samples (Includes	M180 Real Tin	M180 Real Time qPCR-ERMI 36						
Penicillium, Aspergillu ID & Count)	s, Cladosporium, Stachybotrys Species		Panel Legionella Analys M025 Sewage Screen –Water (MFT*) Legionella COC				use Emol -		
M009 Bacteria Culture	-	*MET= Membr	ane Filtration Tech	mique					
M011 Bacteria Count	& ID - 3 Most Prominent & ID - 5 Most Prominent		Probable Number	inque					
M012 Pseudomonas a Name of Sampler:			Signature of Sampler:						
Rume of Sumpler		l	Potable/	ampier:	<u> </u>	<u>, </u>	Temperature		
Sample #	Sample Location/Description	Sample Type	NonPotable (only for waters)	Test Code	Volume/ Area	Date/Time Collected	(*C) (Lab Use Only)		
1 1									
					Ы				
2839 - 4289	Office Room	Air		MOOR	· • •	5/21/2019			
2839 - 4289	Multi Purpose Room	Air		M001	75L	5/21/2019			
2839 - 4289 2839 - 4320	Multi Purpose Room	-1		M001 M001fs	75L 75L	ł			
2839 - 4289 2839 - 4320 2839 - 4328	Multi Purpose Room Media Centre Computer Lab	Air		M001 M001 M001	75L 75L 75L	5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301	Multi Purpose Room Media Centre Computer Lab Room 205	Air Air Air Air Air		M001 M001 M001 M001	75L 75L 75L 75L	5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328	Multi Purpose Room Media Centre Computer Lab	Air Air Air		M001 M001 M001	75L 75L 75L	5/21/2019 5/21/2019 5/21/2019 5/21/2019 <u>r</u> 5/21/2019 <u>r</u>			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219	Air Air Air Air Air		M001 M001 M001 M001 M001	75L 75L 75L 75L	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301 2839 - 4334	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219	Air Air Air Air Air Total # of Samp	P NP P NP P NP P NP P NP P NP Image: NP Image: NP Image: NP Image: NP Image: NP Image: NP	M001 M001 M001 M001 M001	75L 75L 75L 75L 75L 75L	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301 2839 - 4334 Client Sample # (s Relinquished (Clie Received (Lab)	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219): nut: Norray Mark	Air Air Air Air Air Total # of Samp	$\begin{array}{c c} P & QNP \\ P & QNP$	M001 M001 M001 M001 M001 Samples	75L 75L 75L 75L 75L 75L Received	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301 2839 - 4334 Client Sample # (s Relinguished (Clie	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219): nut: Norray Mark	Air Air Air Air Air Fotal # of Samp	$\begin{array}{c c} P & QNP \\ P & QNP$	M001 M001 M001 M001 M001 Samples	75L 75L 75L 75L 75L 75L Received Time:	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301 2839 - 4334 Client Sample # (s Relinquished (Clie Received (Lab)	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219): nut: Norray Mark	Air Air Air Air Air Fotal # of Samp	$\begin{array}{c c} P & QNP \\ P & QNP$	M001 M001 M001 M001 M001 Samples	75L 75L 75L 75L 75L 75L Received Time:	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301 2839 - 4334 Client Sample # (s Relinquished (Clie Received (Lab)	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219): nut: Norray Mark	Air Air Air Air Air Fotal # of Samp	$\begin{array}{c c} P & QNP \\ P & QNP$	M001 M001 M001 M001 M001 Samples	75L 75L 75L 75L 75L 75L Received Time:	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301 2839 - 4334 Client Sample # (s Relinquished (Clie Received (Lab)	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219): nut: Norray Mark	Air Air Air Air Air Total # of Samp Dat	$\begin{array}{c c} P & Q NP \\ \hline P & Q & Q NP \\ \hline P & Q & Q NP \\ \hline P & Q & Q \\ \hline$	M001 M001 M001 M001 M001 Samples	75L 75L 75L 75L 75L 75L Received Time:	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301 2839 - 4334 Client Sample # (s Relinguished (Clie Received (Lab) Comments/Specia	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219): 	Air Air Air Air Air Fotal # of Samp	$\begin{array}{c c} P & Q NP \\ \hline P & Q & Q NP \\ \hline P & Q & Q NP \\ \hline P & Q & Q \\ \hline$	M001 M001 M001 M001 M001 Samples	75L 75L 75L 75L 75L 75L Received Time:	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301 2839 - 4334 Client Sample # (s Relinguished (Clie Received (Lab) Comments/Specia	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219): nut: Norray Mark	Air Air Air Air Air Total # of Samp Dat	$\begin{array}{c c} P & Q NP \\ \hline P & Q & Q NP \\ \hline P & Q & Q NP \\ \hline P & Q & Q \\ \hline$	M001 M001 M001 M001 M001 Samples	75L 75L 75L 75L 75L 75L Received Time:	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			
2839 - 4289 2839 - 4320 2839 - 4328 2839 - 4301 2839 - 4334 Client Sample # (s Relinguished (Clie Received (Lab) Comments/Specia	Multi Purpose Room Media Centre Computer Lab Room 205 Room 219): 	Air Air Air Air Air Total # of Samp Dat	$\begin{array}{c c} P & Q NP \\ \hline P & Q & Q NP \\ \hline P & Q & Q NP \\ \hline P & Q & Q \\ \hline$	M001 M001 M001 M001 M001 Samples	75L 75L 75L 75L 75L 75L Received Time:	5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019 5/21/2019			

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OrderID: 061909886



Microbiology Chain of Custody EMSL Order Number (Lab Use Only):

PHONE: FAX:

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

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Sample #	Sample Location/Description	Sample Type	Potable/ NonPotable	Test Code	Volume/ Area	Date/Time Collected	Temperature (°C) (Lab Use Only)
2839 - 4333	Outside Exterior EV Sample	Air		M001	75L	5/21/2019	
2839 - 4319	Field Blank	Air		N/A	N/A	5/21/2019	
			P NP				
			P NP				
			P NP				
			□ P □NP				
			DP DNP				-
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						2010 C	EMSI
	·		□ P □NP) N	~ ~ ~
							20
Comments/	Special Instructions:		2 of				

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