Dutchess BOCES
SAFETY AND RISK

HEALTH, SAFETY & RISK MANAGEMENT
Brian Colandrea
Safety & Risk Coordinator

5 BOCES Road • Poughkeepsie, NY 12601
Telephone: 845-486-8087 • Facsimile: 845-486-4818
Email:brian.colandrea@dcboces.org

Environmental Hygiene Report

Submitted to: John Willabay
Director of Facilities
Poughkeepsie City School District
Prepared by: Brian Colandrea

Location(s)	Middle School/Administration
Project No.	024-1718
Site Visit(s)	January 24, 2018
Report Date	February 5, 2018
Investigator(s)	Brian Colandrea

Dutchess County BOCES *Health, Safety &Risk Management* does not assert that all potential health or safety hazards at this site were evaluated during this survey. This survey is strictly limited to that which is identified in the Project Scope of the report.

TABLE OF CONTENTS

Author's Note: Parenthetical numerals at the end of a sentence reference the work with the corresponding notation in the References section. *Please read this report in its entirety, including any attached appendices, to fully understand this investigation.*

Executive Summary

On January 22, 2018 the Facilities Department for the Poughkeepsie City School District requested that our office perform an indoor air quality (IAQ) investigation in the Middle School Student Services suite and the Business office area of the Administration Building. On January 24, 2018 we performed a visual inspection of the areas in question as well as sampling for background IAQ parameters, and visible/airborne fungal spores. Results of the sampling (see **Results Summary**) showed nothing of concern. A tape lift sample taken in the Student Services suite showed moderate Cladosporium spores. A recommendation was made regarding this result (see **Comments & Recommendations**). The background IAQ sampling showed relative humidity (%RH) to be low, which is common for winter months.

Project Scope

Perform a visual inspection of the Student Services suite in the Middle School and the Business office in the Administration building of the Poughkeepsie City School District. Perform air sampling for total fungal spores and background IAQ data. Review the data and prepare a written report for the Poughkeepsie City School District.

Materials & Methods

Air sampling for fungal spores was performed using a Zefon, Bio-Pump Plus calibrated to 15 liters per minute (LPM), each sample was collected for 6 minutes. Each sample was collected on a Zefon Air-O-Cell cassette. The samples, once collected were then packaged and delivered via UPS to Aerobiology Laboratory Associates Inc., (AIHA-LAP EMLAP# 102747) located in Pennsauken, New Jersey for analysis. Background IAQ parameters were collected using a Gray Wolf Sensing Solutions, Indoor Air

Quality Probe (IQ-604). Results were then transferred to a computer in our office located at the Dutchess BOCES Salt Point Center.

Results Summary

All sample results and other data were reported to the administration of the local educational agency (LEA) via phone, fax, or e-mail as they became available to our department.

***For Full Sampling Results See Appendix**

Air Sampling For Fungal Spores

Middle School Student Services Air Samples

Sample ID	Sample Location	Spore Identification in spr/m^3*
0118-PMS1	General Office	ascospores- 89 basidiospores- 44 Cladosporium- 222
0118-PMS2	Private Office	Cladosporium- 222
0118-PMS3	Director Office	Cladosporium- 267
0118-PMS4	Conference Room	ascospores- 44 Cladosporium- 133
0118-PMS5	Outdoor Comparison	Cladosporium- 133

*spores per meter cubed

Middle School Student Services Tape Lift

Sample ID	Sample Location	Results
0118-PMS6	General Office Table	Moderate Cladosporium spores seen

Administration Building

Sample ID	Sample Location	Spore Identification in spr/m^3*
0118-PAB1	Payroll Office	Cladosporium- 222 Smuts, Periconia, Myxomycetes- 44
0118-PAB2	Business Office Main Office	ascospores- 44 Cladosporium- 267
0118-PAB3	Business Office Lobby	Cladosporium- 89
0118-PMS5	Outdoor Comparison	Cladosporium- 133

*spores per meter cubed

Background IAQ Data

Middle School Student Services General Office

Parameters:	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp °F	%RH	Dew Pt. °F
Averages:	213	783	0.07	1.3	75.0	21.1	32.7

Middle School Student Services Private Office

Parameters:	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp °F	%RH	Dew Pt. °F
Averages:	150	637	0.07	1.0	75.4	19.0	30.4

Middle School Student Services Director Office

Parameters:	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp °F	%RH	Dew Pt. °F
Averages:	114	679	0.09	0.7	76.0	19.8	32.0

Middle School Student Services Conference Room

Parameters:	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp °F	%RH	Dew Pt. °F
Averages:	54	608	0.08	0.5	76.9	16.1	27.5

Administration, Payroll Office

Parameters:	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp °F	%RH	Dew Pt. °F
Averages:	118	677	0.08	0.5	76.2	17.6	29.1

Administration, Business Office, Main Office

Parameters:	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp °F	%RH	Dew Pt. °F
Averages:	67	603	0.08	0.08	75.1	16.8	27.1

Administration, Business Office, Lobby

Parameters:	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp °F	%RH	Dew Pt. °F
Averages:	53	577	0.08	0.2	75.5	16.5	27.0

Outdoor Comparison Sample

Parameters:	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp °F	%RH	Dew Pt. °F
Averages:	2	476	0.15	2.8	51.8	12.8	2.3

Discussion

The National Institute for Occupational Safety & Health (NIOSH), a division of the Center for Disease Control, uses the term Indoor Environmental Quality (IEQ) to describe the perception of the indoor environment by occupants of non-industrial facilities like offices and schools. Occupants of these facilities frequently report a variety of physical symptoms (e.g. headache, fatigue, eye & skin irritation) that they attribute to poor indoor air. If air is the culprit, there may be a number of causes, including chemical, physical, and biological contamination. These contaminants can create odors, cause occupant discomfort, and, occasionally, create a health hazard. Frequently the cause of poor indoor air quality is inadequate or poorly modulated ventilation. This can result in uneven heating and cooling (which can affect the comfort of building occupants) and the provision of inadequate outside air.

Bioaerosols, airborne particles that are living or originate from living organisms, are ubiquitous in nature and may be modified by human activities. ***(1)*** They become an occupational hygiene concern when, as a result of indoor sources, the kinds and levels of microorganisms inside a building or facility are different than those in the surrounding outdoor environment. Microbiological growth inside building is normally the result of water intrusion (e.g. from roof leaks), standing water, or high humidity and dew

point. Bioaerosols of concern include fungi, bacteria, viruses, allergens, and other metabolic by-products. Locating sources of bioaerosols inside buildings is heavily dependent upon good investigative techniques. Such techniques include, but are not wholly dependent upon, sampling. Sampling for bioaerosols Includes air sampling and source (e.g. bulk, swab, tape-lift) sampling.

Comments & Recommendations

On January 22, 2018 the Facilities Department for the Poughkeepsie City School District requested that our office perform an indoor air quality (IAQ) investigation in the Middle School Student Services suite and the Business office area of the Administration Building. On January 24, 2018 we performed a visual inspection of the areas in question as well as sampling for background IAQ parameters, and airborne fungal spores. Results of the sampling (see **Results Summary**) showed nothing of concern. Visual inspections showed one area of possible fungal growth, a tape lift sample taken in the area (Student Services General Office) showed moderate Cladosporium spores. It is recommended that the table from which the tape lift sample was taken be cleaned. The background IAQ sampling showed relative humidity (%RH) to be low, which is common for winter months. Low RH levels can cause dry skin, and may irritate sinuses, throats and cause eyes to itch.

References

1. **University of Minnesota:** *Fungal Glossary*. Minneapolis, MN: University of Minnesota, Department of Environmental health & Safety, 2004

Appendix A

Full Air Sampling Results

Aerobiology Laboratory Associates, Incorporated
Expertise Since 1997

Lab Use: 18002659

ELITE AZ, CA, CO, FL, GA, VA, NJ

NVLAP AZ, CA, CO, VA

AZ, CA, CO, FL, GA, NJ, VA

Aerobiology Client	Poughkeepsie City Schools				
Field Contact	Brian Colandrea/John Willabay	Collected By/Date: 01/24/18		Relinquished By/Date: 01/25/18	
Reporting Address	Dutchess BOCES 5 BOCES Road, Poughkeepsie, NY 12601	Relinquished By/Date: Brian Colandrea 1/25/18		Received By/Date: [illegible] -26-18	
Billing Address	Poughkeepsie City Schools 11 College Ave., Poughkeepsie, NY 12603	Sampler Type	Andersen ☐ SAS ☐	SampleAire ☐ AeroTrap ☐	Other X BioCulture ☐
Phone/Fax	(845)486-8087 Fax # (845)486-4818	PO#/Job#:			
Reporting Email (s)	brian.colandrea@dcboces.org	Project Name: Middle School & Administration			
Routine X / 24 Hour ☐ / Same Day ☐ / 4 Hour ☐ / 2 Hour ☐		Notes:			
SAMPLING LOCATION ZIP CODE	12603	CC Info:			

	Sample No.	Test Code	Sample Location	Total Volume/Area
1	0118-PMS1	1054	Middle School, Student Services General Office	90 L
2	0118-PMS2	1054	Middle School, Student Services Private Office	90 L
3	0118-PMS3	1054	Middle School, Student Services Director Office	90 L
4	0118-PMS4	1054	Middle School, Student Services Conference Room	90 L
5	0118-PMS5	1054	Middle School, Outdoor Comparison Sample	90 L
6	0118-PMS6	1051	Middle School, Student Services General Office Table	N/A
7	0118-PAB1	1054	Administration, Payroll Office	90 L
8	0118-PAB2	1054	Administration, Business Office Main Office	90 L
9	0118-PAB3	1054	Administration, Business Office Lobby	90 L
10				
11				
12				
13				
14				
15				

1054	Direct, Non-viable Spore Trap	1015	Culture - WATER Legionella
1051	Direct, Qualitative- Swab/Tape	1017	Culture - SWAB Legionella
1050	Direct, Qualitative- Bulk	1010	WATER - Potable - E. coli/total coliforms
1005	AIR Culture - Bacterial Count w/ ID's	1012	SWAB - E. coli/total coliforms
1030	AIR Culture - Fungal Count w/ ID's	1028	SWAB - Sewage Screen (E. coli/Entero/fecal coliforms)
1006	SWAB Culture - Bacterial Count w/ ID's	2056	WATER - Heterotrophic Plate Count
1031	SWAB Culture - Fungal Count w/ ID's	3001	ASBESTOS - Point count
1008	BULK Culture - Bacterial Count w/ ID's	3002	ASBESTOS - PLM Analysis
1033	BULK Culture - Fungal Count w/ ID's	3003	ASBESTOS - Particle characterization
1007	WATER Culture - Bacterial Count w/ID's	3004	ASBESTOS - PCM Analysis

Aerobiology Laboratory Associates, Incorporated
Expertise Since 1997

Certificate of Analysis
AIHA-LAP EMLAP# 102747

7184 North Park Drive
Pennsauken, New Jersey 08109
(856) 486-1177
www.aerobiology.net

Dutchess BOCES
5 Boces Road
Poughkeepsie, New York 12601
Project: **MIDDLE SCHOOL + ADMINISTRATION**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 01/24/2018
Date Received: 01/26/2018
Date Analyzed: 01/31/2018
Date Reported: 01/31/2018
Project ID: 18002659

1054 Spore Trap Analysis: SOP 3.8

Client Sample Number	0118-PMS1				0118-PMS5			
Sample Location	MIDDLE SCHOOL, STUDENT SERVICES GENERAL OFFICE				MIDDLE SCHOOL, OUTDOOR COMPARISON SAMPLE			
Sample Volume (L)	90				90			
Lab Sample Number	18002659-001				18002659-005			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
ascospores	2	89	25	-	-	-	-	-
basidiospores	1	44	12	-	-	-	-	-
Cladosporium	5	222	62	2/1	3	133	100	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **11** spr/m³				Analytical Sensitivity: **11** spr/m³			
Comments								
Total *See Footnotes	8	356	~100%	3/1	3	133	~100%	-

Client Sample Number	0118-PMS2				0118-PMS5			
Sample Location	MIDDLE SCHOOL, STUDENT SERVICES PRIVATE OFFICE				MIDDLE SCHOOL, OUTDOOR COMPARISON SAMPLE			
Sample Volume (L)	90				90			
Lab Sample Number	18002659-002				18002659-005			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Cladosporium	5	222	100	2/1	3	133	100	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **11** spr/m³				Analytical Sensitivity: **11** spr/m³			
Comments								
Total *See Footnotes	5	222	~100%	2/1	3	133	~100%	-

Client Sample Number	0118-PMS3				0118-PMS5			
Sample Location	MIDDLE SCHOOL, STUDENT SERVICES DIRECTOR OFFICE				MIDDLE SCHOOL, OUTDOOR COMPARISON SAMPLE			
Sample Volume (L)	90				90			
Lab Sample Number	18002659-003				18002659-005			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Cladosporium	6	267	100	2/1	3	133	100	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **11** spr/m³				Analytical Sensitivity: **11** spr/m³			
Comments								
Total *See Footnotes	6	267	~100%	2/1	3	133	~100%	-

Aerobiology Laboratory Associates, Incorporated
Expertise Since 1997

Certificate of Analysis
AIHA-LAP EMLAP# 102747

7184 North Park Drive
Pennsauken, New Jersey 08109
(856) 486-1177
www.aerobiology.net

Dutchess BOCES
5 Boces Road
Poughkeepsie, New York 12601
Project: **MIDDLE SCHOOL + ADMINISTRATION**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 01/24/2018
Date Received: 01/26/2018
Date Analyzed: 01/31/2018
Date Reported: 01/31/2018
Project ID: 18002659

Client Sample Number	0118-PMS4				0118-PMS5			
Sample Location	MIDDLE SCHOOL, STUDENT SERVICES CONFERENCE ROOM				MIDDLE SCHOOL, OUTDOOR COMPARISON SAMPLE			
Sample Volume (L)	90				90			
Lab Sample Number	18002659-004				18002659-005			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
ascospores	1	44	25	-	-	-	-	-
Cladosporium	3	133	75	1/1	3	133	100	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **11** spr/m³				Analytical Sensitivity: **11** spr/m³			
Comments								
Total *See Footnotes	4	178	~100%	1/1	3	133	~100%	-

Client Sample Number	0118-PAB1				0118-PMS5			
Sample Location	ADMINISTRATION, PAYROLL OFFICE				MIDDLE SCHOOL, OUTDOOR COMPARISON SAMPLE			
Sample Volume (L)	90				90			
Lab Sample Number	18002659-007				18002659-005			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Cladosporium	5	222	83	2/1	3	133	100	-
Smuts,Periconia,Myxomycetes	1	44	17	-	-	-	-	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **11** spr/m³				Analytical Sensitivity: **11** spr/m³			
Comments								
Total *See Footnotes	6	267	~100%	2/1	3	133	~100%	-

Client Sample Number	0118-PAB2				0118-PMS5			
Sample Location	ADMINISTRATION, BUSINESS OFFICE MAIN OFFICE				MIDDLE SCHOOL, OUTDOOR COMPARISON SAMPLE			
Sample Volume (L)	90				90			
Lab Sample Number	18002659-008				18002659-005			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
ascospores	1	44	14	-	-	-	-	-
Cladosporium	6	267	86	2/1	3	133	100	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **11** spr/m³				Analytical Sensitivity: **11** spr/m³			
Comments								
Total *See Footnotes	7	311	~100%	2/1	3	133	~100%	-

Aerobiology Laboratory Associates, Incorporated
Expertise Since 1997

Certificate of Analysis
AIHA-LAP EMLAP# 102747

7184 North Park Drive
Pennsauken, New Jersey 08109
(856) 486-1177
www.aerobiology.net

Dutchess BOCES
5 Boces Road
Poughkeepsie, New York 12601
Project: **MIDDLE SCHOOL + ADMINISTRATION**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 01/24/2018
Date Received: 01/26/2018
Date Analyzed: 01/31/2018
Date Reported: 01/31/2018
Project ID: 18002659

Client Sample Number	0118-PAB3				0118-PMS5			
Sample Location	ADMINISTRATION, BUSINESS OFFICE LOBBY				MIDDLE SCHOOL, OUTDOOR COMPARISON SAMPLE			
Sample Volume (L)	90				90			
Lab Sample Number	18002659-009				18002659-005			
Spore Identification	Raw Ct	spr/m³	% Ttl	In/Out	Raw Ct	spr/m³	% Ttl	In/Out
Cladosporium	2	89	100	1/2	3	133	100	-
	Debris Rating **3**				Debris Rating **3**			
Analytical Sensitivity	Analytical Sensitivity: **11** spr/m³				Analytical Sensitivity: **11** spr/m³			
Comments								
Total *See Footnotes	2	89	~100%	1/2	3	133	~100%	-

Client Sample #: 0118-PMS6
Lab Sample #: 18002659-006
Sample Location: MIDDLE SCHOOL, STUDENT SERVICES GENERAL OFFICE TABLE
Test: 1051, Surface - Qualitative Direct Microscopic Exam SOP 3.7

Results:	Observation
Moderate Cladosporium spores seen	1 per 5 fields

Debris Rating: 3

Aerobiology Laboratory Associates, Incorporated
Expertise Since 1997

7184 North Park Drive
Pennsauken, New Jersey 08109
(856) 486-1177
www.aerobiology.net

Certificate of Analysis
AIHA-LAP EMLAP# 102747

Dutchess BOCES
5 Boces Road
Poughkeepsie, New York 12601
Project: **MIDDLE SCHOOL + ADMINISTRATION**
Condition of Sample(s) Upon Receipt: Acceptable

Date Collected: 01/24/2018
Date Received: 01/26/2018
Date Analyzed: 01/31/2018
Date Reported: 01/31/2018
Project ID: 18002659

Footnotes and Additional Report Information

Debris Rating Table

1	Minimal (<5%) particular present	Reported values are minimally affected by particulate load.
2	5% to 25% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
3	26% to 75% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
4	75% to 90% of the trace occluded with particulate	Negative bias is expected. The degree of bias increases directly with the percent of the trace that is occluded.
5	Greater than 90% of the trace occluded with particulate	Quantification not possible due to large negative bias. A new sample should be collected at a shorter time interval or other measures taken to reduce particulate load.

1. Penicillium/Aspergillus group spores are characterized by their small size, round to ovoid shape, being unicellular, and usually colorless to lightly pigmented. There are numerous genera of fungi whose spore morphology is similar to that of the Penicillium/Aspergillus type. Two common examples would be Paecilomyces and Acremonium. Although the majority of spores placed in this group are Penicillium, Aspergillus, or a combination of both. Keep in mind that these are not the only two possibilities.

2. Ascospores are sexually produced fungal spores formed within an ascus. An ascus is a sac-like structure designed to discharge the ascospores into the environment, e.g. Ascobolus.

3. Basidiospores are typically blown indoors from outdoors and rarely have an indoor source. However, in certain situations a high basidiospore count indoors may be indicative of a wood decay problem or wet soil.

4. The colorless group contains colorless spores which were unidentifiable to a specific genus. Examples of this group include Acremonium, Aphanocladium, Beauveria, Chrysosporium, Engyodontium microconidia, yeast, some arthrospores, as well as many others.

5. Hyphae are the vegetative mode of fungi. Hyphal elements are fragments of individual Hyphae. They can break apart and become airborne much like spores and are potentially allergenic. A mass of hyphal elements is termed the mycelium. Hyphae in high concentration may be indicative of colonization.

6. Dash (-) in this report, under raw count column means 'not detected (ND)'; otherwise 'not applicable' (NA).

7. The positive-hole correction factor is a statistical tool which calculates a probable count from the raw count, taking into consideration that multiple particles can impact on the same hole; for this reason the sum of the calculated counts may be less than the positive hole corrected total.

8. Due to rounding totals may not equal 100%.

9. Analytical Sensitivity for each spores is different for Non-viable sample when the spores are read at different percentage. Analytical Sensitivity is calculated as spr/m^3 divided by raw count. spr/m^3 = raw counts x (100/ % read) x (1000/Sample volume). If Analytical Sensitivity is 13 spr/m^3 at 100% read, Analytical Sensitivity at 50% read would be 27 spr/m^3, which is 2 times higher. Analytical Sensitivity provided on the report is based on an assumed 100% of the trace being analyzed.

10. Minimum Reporting Limits (MRL) for BULKS, DUSTS, SWABS, and WATER samples are a calculation based on the sample size and the dilution plate on which the organism was counted. Results are a compilation of counts taken from multiple dilutions and multiple medias. This means that every genus of fungi or bacteria recovered can be counted on the plate on which it is best represented.

11. If the final quantitative result is corrected for contamination based on the blank, the blank correction is stated in the sample comments section of the report.

12. Analysis conducted on non-viable spore traps is completed using Indoor Environmental Standards Organization (IESO) Standard 2210.

13. The results in this report are related to this project and these samples only.

14. For samples with an air volume of < 100L, the number of significant figures in the result should be considered (2) two. For samples with air volumes between 100-999L, the number of significant figures in the result should considered (3) three. For example, a sample with a result of 55,443 spr/m^3 from a 75L sample using significant figures should be considered 55,000. The same result of 55,443 from a 150L sample using significant figures should be considered 55,400 spr/m^3.

15. If the In/Out ratio is greater than 100 times it is indicated >100/1, rather than showing the real value.

Terminology Used in Direct Exam Reporting

Conidiophores are a type of modified hyphae from which spores are born. When seen on a surface sample in moderate to numerous concentrations they may be indicative of fungal growth.

Suzanne S. Blevins, B.S., SM (ASCP)
Laboratory Director

Appendix B

Full Background IAQ Results

Poughkeepsie City Schools IAQ Data 1-24-18

Middle School Student Services General Office

Date/Time	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp ^0F	%RH	Dew Pt. ^0F
24-Jan-18 10:56:45 AM	236	722	0.06	1.3	74.2	21.4	32.2
24-Jan-18 10:57:45 AM	243	764	0.07	1.4	74.3	22.0	33.1
24-Jan-18 10:58:45 AM	240	802	0.07	1.4	74.4	22.2	33.4
24-Jan-18 10:59:45 AM	233	786	0.07	1.4	74.5	21.8	33.0
24-Jan-18 11:00:45 AM	225	753	0.07	1.4	74.7	21.4	32.7
24-Jan-18 11:01:45 AM	221	741	0.06	1.4	74.7	21.2	32.5
24-Jan-18 11:02:45 AM	215	741	0.06	1.4	74.8	21.1	32.4
24-Jan-18 11:03:45 AM	214	838	0.07	1.4	74.9	21.3	32.7
24-Jan-18 11:04:45 AM	212	904	0.07	1.3	75.0	21.5	33.1
24-Jan-18 11:05:45 AM	208	814	0.07	1.3	75.1	21.2	32.8
24-Jan-18 11:06:45 AM	205	780	0.07	1.3	75.2	20.9	32.6
24-Jan-18 11:07:45 AM	198	759	0.07	1.3	75.3	20.6	32.3
24-Jan-18 11:08:45 AM	196	759	0.07	1.3	75.4	20.5	32.2
24-Jan-18 11:09:45 AM	198	780	0.07	1.3	75.5	20.6	32.4
24-Jan-18 11:10:45 AM	195	784	0.07	1.3	75.5	20.5	32.4
24-Jan-18 11:11:45 AM	192	788	0.07	1.3	75.7	20.6	32.5
24-Jan-18 11:12:45 AM	191	801	0.07	1.3	75.7	20.7	32.7
Averages:	**213**	**783**	**0.07**	**1.3**	**75.0**	**21.1**	**32.7**

Poughkeepsie City Schools IAQ Data 1-24-18

Middle School Student Services Private Office

Date/Time	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp ^0F	%RH	Dew Pt. ^0F
24-Jan-18 11:17:40 AM	181	620	0.07	1.2	75.2	19.1	30.4
24-Jan-18 11:18:40 AM	176	626	0.07	1.1	75.3	19.2	30.5
24-Jan-18 11:19:40 AM	168	613	0.07	1.1	75.4	19.2	30.5
24-Jan-18 11:20:40 AM	159	625	0.07	1.1	75.4	19.2	30.5
24-Jan-18 11:21:40 AM	155	649	0.07	1.0	75.4	19.3	30.7
24-Jan-18 11:22:40 AM	157	658	0.07	1.0	75.5	19.4	30.8
24-Jan-18 11:23:40 AM	153	635	0.08	1.0	75.5	19.2	30.7
24-Jan-18 11:24:40 AM	148	625	0.07	1.0	75.4	19.0	30.4
24-Jan-18 11:25:40 AM	143	618	0.07	1.0	75.4	18.9	30.2
24-Jan-18 11:26:40 AM	142	645	0.08	0.9	75.4	19.2	30.7
24-Jan-18 11:27:40 AM	138	632	0.08	0.9	75.5	19.0	30.4
24-Jan-18 11:28:40 AM	136	652	0.08	0.9	75.6	18.9	30.3
24-Jan-18 11:29:40 AM	134	660	0.08	0.9	75.6	18.7	30.1
24-Jan-18 11:30:40 AM	132	646	0.08	0.9	75.6	18.6	30.0
24-Jan-18 11:31:40 AM	130	647	0.08	0.8	75.6	18.6	30.0
Averages:	**150**	**637**	**0.07**	**1.0**	**75.5**	**19.0**	**30.4**

Poughkeepsie City Schools IAQ Data 1-24-18

Middle School Student Services Director Office

Date/Time	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp ^0F	%RH	Dew Pt. ^0F
24-Jan-18 11:36:13 AM	119	598	0.09	0.7	75.7	19.4	31.0
24-Jan-18 11:37:13 AM	118	597	0.09	0.7	75.7	19.4	31.1
24-Jan-18 11:38:13 AM	117	619	0.09	0.7	75.8	19.5	31.2
24-Jan-18 11:39:13 AM	117	640	0.09	0.7	75.9	19.6	31.5
24-Jan-18 11:40:13 AM	115	635	0.09	0.7	76.0	19.5	31.5
24-Jan-18 11:41:13 AM	115	659	0.09	0.7	76.0	19.6	31.6
24-Jan-18 11:42:13 AM	115	676	0.09	0.7	76.0	19.9	31.9
24-Jan-18 11:43:13 AM	115	692	0.09	0.7	76.1	20.0	32.2
24-Jan-18 11:44:13 AM	114	701	0.09	0.7	76.2	20.0	32.2
24-Jan-18 11:45:13 AM	114	716	0.09	0.7	76.3	20.1	32.4
24-Jan-18 11:46:13 AM	113	728	0.09	0.7	76.3	20.2	32.6
24-Jan-18 11:47:13 AM	112	736	0.09	0.7	76.3	20.3	32.7
24-Jan-18 11:48:13 AM	110	722	0.09	0.7	76.4	20.2	32.6
24-Jan-18 11:49:13 AM	110	726	0.09	0.7	76.5	20.0	32.5
24-Jan-18 11:50:13 AM	109	742	0.09	0.7	76.5	19.9	32.5
Averages:	**114**	**679**	**0.09**	**0.7**	**76.0**	**19.8**	**32.0**

Poughkeepsie City Schools IAQ Data 1-24-18

Middle School Student Services Conference Room

Date/Time	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp ^0F	%RH	Dew Pt. ^0F
24-Jan-18 01:13:24 PM	55	623	0.07	0.7	77.1	16.1	27.6
24-Jan-18 01:14:24 PM	57	617	0.07	0.7	77.1	16.1	27.6
24-Jan-18 01:15:24 PM	57	608	0.07	0.6	77.1	16.0	27.5
24-Jan-18 01:16:24 PM	57	607	0.07	0.6	77.1	15.9	27.4
24-Jan-18 01:17:24 PM	57	609	0.07	0.6	77.1	16.0	27.4
24-Jan-18 01:18:24 PM	57	615	0.08	0.5	77.1	16.1	27.6
24-Jan-18 01:19:24 PM	56	612	0.08	0.5	76.9	16.1	27.5
24-Jan-18 01:20:24 PM	55	608	0.08	0.5	76.9	16.0	27.5
24-Jan-18 01:21:24 PM	54	605	0.08	0.4	76.9	16.0	27.4
24-Jan-18 01:22:24 PM	53	601	0.08	0.4	76.8	16.0	27.3
24-Jan-18 01:23:24 PM	53	602	0.08	0.4	76.8	16.1	27.4
24-Jan-18 01:24:24 PM	53	604	0.08	0.3	76.8	16.1	27.4
24-Jan-18 01:25:24 PM	52	604	0.08	0.3	76.7	16.2	27.5
24-Jan-18 01:26:24 PM	51	601	0.08	0.3	76.7	16.1	27.4
24-Jan-18 01:27:24 PM	50	601	0.08	0.2	76.7	16.1	27.3
24-Jan-18 01:28:24 PM	49	607	0.08	0.2	76.6	16.2	27.4
Averages:	**54**	**608**	**0.08**	**0.5**	**76.9**	**16.1**	**27.5**

Poughkeepsie City Schools IAQ Data 1-24-18

Administration, Payroll Office

Date/Time	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp ^0F	%RH	Dew Pt. ^0F
24-Jan-18 12:04:53 PM	139	657	0.07	0.8	76.3	17.0	28.4
24-Jan-18 12:05:53 PM	135	640	0.07	0.8	76.3	16.9	28.2
24-Jan-18 12:06:53 PM	132	661	0.07	0.7	76.3	17.0	28.4
24-Jan-18 12:07:53 PM	131	677	0.07	0.6	76.3	17.3	28.7
24-Jan-18 12:08:53 PM	129	677	0.08	0.6	76.2	17.4	28.8
24-Jan-18 12:09:53 PM	126	676	0.08	0.5	76.2	17.4	28.8
24-Jan-18 12:10:53 PM	122	678	0.08	0.5	76.2	17.5	29.0
24-Jan-18 12:11:53 PM	120	685	0.08	0.5	76.2	17.6	29.1
24-Jan-18 12:12:53 PM	117	687	0.08	0.5	76.0	17.7	29.1
24-Jan-18 12:13:53 PM	114	685	0.08	0.4	76.0	17.7	29.0
24-Jan-18 12:14:53 PM	110	687	0.08	0.4	76.0	17.8	29.2
24-Jan-18 12:15:53 PM	109	684	0.08	0.4	76.0	17.8	29.3
24-Jan-18 12:16:53 PM	107	685	0.08	0.4	76.0	17.9	29.4
24-Jan-18 12:17:53 PM	106	687	0.09	0.4	76.1	18.0	29.6
24-Jan-18 12:18:53 PM	105	685	0.09	0.4	76.1	18.0	29.6
24-Jan-18 12:19:53 PM	102	680	0.09	0.4	76.2	18.1	29.7
24-Jan-18 12:20:53 PM	99	683	0.09	0.4	76.2	18.2	30.0
Averages:	**118**	**677**	**0.08**	**0.5**	**76.2**	**17.6**	**29.1**

Poughkeepsie City Schools IAQ Data 1-24-18

Administration, Business Office Main Office

Date/Time	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp ^0F	%RH	Dew Pt. ^0F
24-Jan-18 12:24:49 PM	80	655	0.08	0.3	75.6	17.1	27.8
24-Jan-18 12:25:49 PM	77	641	0.08	0.2	75.6	17.0	27.8
24-Jan-18 12:26:49 PM	75	625	0.08	0.2	75.5	17.0	27.7
24-Jan-18 12:27:49 PM	74	618	0.08	0.2	75.5	16.9	27.5
24-Jan-18 12:28:49 PM	70	599	0.07	0.2	75.3	16.6	27.0
24-Jan-18 12:29:49 PM	68	590	0.07	0.1	75.2	16.5	26.8
24-Jan-18 12:30:49 PM	67	589	0.07	0.0	75.1	16.6	26.8
24-Jan-18 12:31:49 PM	66	589	0.07	0.0	75.1	16.6	26.9
24-Jan-18 12:32:49 PM	64	590	0.07	0.0	75.0	16.7	26.9
24-Jan-18 12:33:49 PM	64	597	0.08	0.0	75.0	16.8	27.0
24-Jan-18 12:34:49 PM	62	593	0.08	0.0	74.9	16.8	26.8
24-Jan-18 12:35:49 PM	61	588	0.08	0.0	74.8	16.8	26.8
24-Jan-18 12:36:49 PM	60	589	0.08	0.0	74.7	16.8	26.7
24-Jan-18 12:37:49 PM	59	593	0.08	0.0	74.6	16.8	26.7
24-Jan-18 12:38:49 PM	58	594	0.08	0.0	74.7	16.8	26.7
Averages:	**67**	**603**	**0.08**	**0.08**	**75.1**	**16.8**	**27.1**

Poughkeepsie City Schools IAQ Data 1-24-18

Administration, Business Office Lobby

Date/Time	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp ^0F	%RH	Dew Pt. ^0F
24-Jan-18 12:46:01 PM	48	570	0.07	0.2	75.6	16.6	27.2
24-Jan-18 12:47:01 PM	49	567	0.07	0.3	75.5	16.3	26.6
24-Jan-18 12:48:01 PM	55	583	0.08	0.4	75.4	16.4	26.7
24-Jan-18 12:49:01 PM	56	587	0.08	0.5	75.4	16.4	26.8
24-Jan-18 12:50:01 PM	55	575	0.08	0.4	75.4	16.3	26.7
24-Jan-18 12:51:01 PM	55	570	0.08	0.3	75.4	16.3	26.6
24-Jan-18 12:52:01 PM	55	565	0.08	0.2	75.3	16.1	26.2
24-Jan-18 12:53:01 PM	54	565	0.08	0.1	75.4	16.1	26.3
24-Jan-18 12:54:01 PM	53	569	0.08	0.1	75.4	16.1	26.4
24-Jan-18 12:55:01 PM	54	569	0.08	0.1	75.5	16.4	26.9
24-Jan-18 12:56:01 PM	55	574	0.08	0.1	75.6	16.7	27.4
24-Jan-18 12:57:01 PM	54	587	0.08	0.1	75.7	16.8	27.6
24-Jan-18 12:58:01 PM	52	588	0.08	0.2	75.7	16.8	27.6
24-Jan-18 12:59:01 PM	52	590	0.08	0.2	75.8	17.1	28.0
24-Jan-18 01:00:01 PM	52	601	0.08	0.2	76.0	17.2	28.3
Averages:	**53**	**577**	**0.08**	**0.2**	**75.5**	**16.5**	**27.0**

Outdoor Comparison Sample

Date/Time	TVOC ppb	CO_2 ppm	H_2S ppm	CO ppm	Temp ^0F	%RH	Dew Pt. ^0F
24-Jan-18 01:35:20 PM	2	476	0.15	2.8	51.8	12.8	2.3