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INDOOR AIR QUALITY EVALUATION MOLD ANALYSIS REPORT

Indiana Avenue School #18 – Routine Monthly Sampling

256 Indiana Avenue | Iselin, NJ 08830

Woodbridge Twp. School District
PO Box 428 School Street
Woodbridge, NJ 07095

Survey date:

April 16, 2019

Inspection performed by:

John Smoyer

AHERA Consultants Inc. was retained by the Woodbridge Twp. School District to conduct routine indoor air quality analysis and testing for mold in various random rooms of the Indiana Avenue School #18. This study was performed at the request of Dr. Robert Zega in response to concerns by school staff over time. A monthly schedule was established by the Woodbridge Township School District for routine sampling throughout the school year. This month, ten (10) rooms were selected for testing as well as an outside control sample.

Existing Conditions

On April 18, 2019, I John Smoyer, Operations Manager from AHERA Consultants, Inc. arrived at the Indiana Avenue School and met with the custodian to examine ten rooms designated by Dr. Zega and the School Principal for testing.

I visually inspected the areas of concern and my findings are as follows:

Room 21: 2x4 drop ceiling tiles, block walls, 12" vct floors, UV running. AC present but not on, dehumidifier running. No visible signs of mold or standing water. No occupants in room and windows closed.

Room 23: 2x4 drop ceiling tiles, block walls, 12" vct floors, UV running. AC present but not on, dehumidifier running. No visible signs of mold or standing water. No occupants in room and windows closed.

Room 24: 2x4 drop ceiling tiles, block walls, 12" vct floors, UV running. AC present but not on, dehumidifier running. No visible signs of mold or standing water. No occupants in room and windows closed. Stained drop ceiling tiles along wall, see pictures.

Room 25: 2x4 drop ceiling tiles, block walls, 12" vct floors, UV running. AC present but not on, dehumidifier running. No visible signs of mold or standing water. No occupants in room and windows closed. Lots of room contents, dust level moderate.

Room 26: 2x4 drop ceiling tiles, block walls, 12" vct floors, UV running. AC present but not on, dehumidifier not running. No visible signs of mold or standing water. No occupants in room and windows closed.

Storage Room adjacent 23/24): Exposed deck ceiling, block walls, 12" vct floors, radiant piping, no windows, no dehumidifier. No visible signs of mold or standing water.

Room 32 (Phys Ed office): 2x4 drop ceiling tiles, block walls, 12" vct floors, no UV. Appears exhaust in ceiling off at time, contents moderate, no dehumidifier. No visible signs of mold or standing water. No occupants in room and no windows.

Room 33 (Custodial Office): Spline ceilings, plaster walls, 9" vat floors, radiant heat on, window AC off, windows open. No visible signs of mold, no stained tiles, no standing material. Minimal dust and contents.

Room 34 (Media Center): Spline ceilings, plaster walls, rug on floor, radiant heat on, window AC on, windows closed. No visible signs of mold, no stained tiles, no standing material. Minimal clutter.

Room 36 (Faculty Lounge): Spline ceilings, plaster walls, 9" vat floors, UV present-not on, window AC off, windows open. Interior rooms, same matrix. No visible signs of mold, no stained tiles, no standing material.

Outside Control Sample: Nice day.

Based on our observations and sampling plan discussed with the School District, I determined that I would conduct ambient Air-o-Cell air sampling and assess the current air quality conditions with respect to temperature, humidity, carbon dioxide (CO²) carbon monoxide (CO) within the spaces and collect a sample outside the building as a control sample.

Section III

Sampling Procedures

- ◇ A visual inspection was performed within each area for evidence of conditions that might contribute to microbial proliferation.
- ◇ Indoor air quality measurements for temperature, humidity, CO² and CO were taken utilizing a Model 7545 IAQ-Calc Indoor Air Quality Meter in above listed areas as well as a control sample outside the rear entrance.
- ◇ An Air Sampling Pump calibrated to 15 LPM was set up in each area of concern; additionally, an outdoor control sample was collected. Air sampling for airborne fungi was performed utilizing Zefon Air-O-Cell Cassettes. 150 liters of air was drawn through each sample. The sampling media was submitted to EMSL Analytical Laboratories in Piscataway, NJ for analysis. Air samples were analyzed within a 48-hour turnaround period.

Section IV

Testing Results

◇ **Table 1: Air -O-Cell Sampling Results**

April 16, 2019

ANALYSIS OF FUNGAL SPORES & PARTICULATES BY OPTICAL MICROSCOPY: AIR-O-CELL Cassette

SAMPLE ID #	SAMPLE LOCATION	PARTICLE ID	COUNT/ m3
3262-0416-01	Room 21	Ascospores	40
		Basidiospores	100
		Cladosporium	100
		Total Fungi	240
3262-0416-02	Room 23	Basidiospores	20
		Cladosporium	20
		Total Fungi	40
3262-0416-03	Room 24	None Detected	0
		Total Fungi	0
3262-0416-04	Room 25	Ascospores	20
		Aspergillus / Penicillium	80
		Chaetomium	20
		Total Fungi	120
3262-0416-05	Room 26	Ascospores	60
		Basidiospores	80
		Total Fungi	120
3262-0416-06	Room 32	Ascospores	20
		Myxomycetes	40
		Total Fungi	60
3262-0416-07	Room 33	Ascospores	200
		Basidiospores	310
		Cladosporium	100
		Total Fungi	610
3262-0416-08	Room 34	Ascospores	80
		Basidiospores	100
		Total Fungi	180
3262-0416-09	Room 36	Basidiospores	40
		Cladosporium	20
		Myxomycetes	20
		Total Fungi	60
3262-0416-10	Storage Room	Alternaria (Ulocladium)	20
		Ascospores	40
		Aspergillus / Penicillium	40
		Basidiospores	60
		Total Fungi	160
3262-0416-11	Outside Control	Ascospores	410
		Aspergillus / Penicillium	250
		Basidiospores	370
		Myxomycetes	20
		Arthrium	20
		Total Fungi	1070
		Pollen	20

Results: Levels of fungi found in the spaces were in line with what was found on the outside control sample.

Section V	Interpretation of Results
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At this time, there are no governmental standards regarding Indoor Air Quality. The Occupational Safety and Health Association (OSHA) and the National Institute of Occupational Safety and Health (NIOSH), as well as other occupational health related associations, have not established permissible exposure levels (PELs), recommended exposure limits (RELs), or other limit values for aeroallergens. (See EMSL Expanded Fungal Report) provided herein.

Most of the fungi detected in typical indoor investigations are considered common to both indoor and outdoor environments. These include species that belong to the genera Cladosporium, Aspergillus, Penicillium, Alternaria, Basidiospores and others. False negative and false positive data are possible. However, it is generally accepted in the

“indoor air quality” industry that indoor fungal growth is undesirable and may necessitate removal or other appropriate remedial actions.

No remedial project should be based solely on data obtained from culturable fungal bioaerosols to represent a threshold value having a medical or health significance with respect to exposure, nor is it necessarily representative of an unacceptable indoor environment. Rather, it is intended to be a “reactionary threshold” to incite further investigation as to the cause(s) of what is considered to be an above average concentration for culturable indoor bioaerosols.

Under the Public Employees Occupational Safety and Health Program there is currently an indoor air quality standard for the state of New Jersey (NJAC 12:100-13). Additionally, there are recommendations under ASHRAE “The American Society of Heating, Refrigeration, and Air Conditioning Engineers for the Indoor Environment.

Under NJAC 12:100-13 a range of 68 to 79 degrees Fahrenheit is the desired temperature range to maintain with Carbon Dioxide (CO²) not exceeding 1000 ppm. If Carbon Dioxide (CO²) exceeds 1000 ppm, the HVAC system should be evaluated for proper operation.

ASHRAE recommends that a relative humidity between 30% and 60% are acceptable, readings in excess of 70% is considered a friendly environment to microorganisms such as mold.

Carbon Monoxide (CO) levels based on OSHA limits long-term workplace exposure levels to 50 ppm over an 8-hour time weighted average. The Threshold Limit Value or TLV for carbon monoxide is 25 ppm.

Section VI	Observations/Recommended Response Actions
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Findings: The results of the ambient air sample sampling from all areas tested during this round of testing found spore counts to be in line with the outside control sample. CO² levels in all rooms tested were less than 1000 PPM.

Recommendations: To prevent creating environments that would promote mold proliferation all sources of excessive moisture/water infiltration should be identified, controlled and/or eliminated when/if they occur.

Clutter should be kept to a minimum and routine maintenance of HVAC systems should be followed.

IAQ Calc Data Sheets (11 Pages)
EMSL laboratory report (4 Pages)



EMSL Analytical, Inc.

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Phone: (609) 652-1833
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Analyzed: 04/18/2019

Project: 18-3262/Woodbridge Twp School District, Indiana Avenue School #18-IAQ Monitoring, PO Box 428-School Street, Woodbridge, NJ 07095 (Woodbridge School #18)

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

Lab Sample Number:	051901746-0001			051901746-0002			051901746-0003		
Client Sample ID:	32620416-01			32620416-02			32620416-03		
Volume (L):	150			150			150		
Sample Location	Classroom #21			Classroom #23			Classroom #24		
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)	-	-	-	-	-	-	-	-	-
Ascospores	2	40	16.7	-	-	-	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	5	100	41.7	1	20	50	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	5	100	41.7	1	20	50	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
Total Fungi	12	240	100	2	40	100	-	None Detect	-
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	21	-	-	21	-	-	21	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	1	-	-	2	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	2	-	-	1	-

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


Nicholas Maslowski, Laboratory Manager
or other approved signatory

No discernable field blank was submitted with this group of samples.

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Samples analyzed by EMSL Analytical, Inc. Piscataway, NJ AIHA-LAP, LLC--EMLAP Accredited #167035

Initial report from: 04/18/2019 20:30:05

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



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

Lab Sample Number:	051901746-0004			051901746-0005			051901746-0006		
Client Sample ID:	32620416-04			32620416-05			32620416-06		
Volume (L):	150			150			150		
Sample Location	Classroom #25			Classroom #26			Room #32 Physed Office		
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)	-	-	-	-	-	-	-	-	-
Ascospores	1	20	16.7	3	60	42.9	1	20	33.3
Aspergillus/Penicillium	4	80	66.7	-	-	-	-	-	-
Basidiospores	-	-	-	4	80	57.1	-	-	-
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	1	20	16.7	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	2	40	66.7
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
Total Fungi	6	120	100	7	140	100	3	60	100
Hyphal Fragment	-	-	-	-	-	-	1	20	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	21	-	-	21	-	-	21	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	2	-

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


Nicholas Maslowski, Laboratory Manager
or other approved signatory

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

Lab Sample Number:	051901746-0007			051901746-0008			051901746-0009		
Client Sample ID:	32620416-07			32620416-08			32620416-09		
Volume (L):	150			150			150		
Sample Location	Room #33 Custodial Office			Room #34 Media Center			Room #36 Faculty Lounge		
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)	-	-	-	-	-	-	-	-	-
Ascospores	9	200	32.8	4	80	44.4	-	-	-
Aspergillus/Penicillium	-	-	-	-	-	-	-	-	-
Basidiospores	15	310	50.8	5	100	55.6	2	40	66.7
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	5	100	16.4	-	-	-	1	20	33.3
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces++	-	-	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Arthrinium	-	-	-	-	-	-	-	-	-
Total Fungi	29	610	100	9	180	100	3	60	100
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	1	20	-	-	-	-
Analyt. Sensitivity 600x	-	21	-	-	21	-	-	21	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	1	-	-	1	-	-	3	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	2	-

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


Nicholas Maslowski, Laboratory Manager
or other approved signatory

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

Lab Sample Number:	051901746-0010			051901746-0011			
Client Sample ID:	32620416-10			32620416-11			
Volume (L):	150			150			
Sample Location	Storage Room Adj 23/24			Outside Control Adj 23/24			
Spore Types	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total	
Alternaria (Ulocladium)	1	20	12.5	-	-	-	-
Ascospores	2	40	25	20	410	38.3	-
Aspergillus/Penicillium	2	40	25	12	250	23.4	-
Basidiospores	3	60	37.5	18	370	34.6	-
Bipolaris++	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-
Cladosporium	-	-	-	-	-	-	-
Curvularia	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-
Ganoderma	-	-	-	-	-	-	-
Myxomycetes++	-	-	-	1	20	1.9	-
Pithomyces++	-	-	-	-	-	-	-
Rust	-	-	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-
Arthrini	-	-	-	1	20	1.9	-
Total Fungi	8	160	100	52	1070	100	
Hyphal Fragment	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-
Pollen	-	-	-	1	20	-	-
Analyt. Sensitivity 600x	-	21	-	-	21	-	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-
Skin Fragments (1-4)	-	1	-	-	1	-	-
Fibrous Particulate (1-4)	-	3	-	-	1	-	-
Background (1-5)	-	1	-	-	2	-	-

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


Nicholas Maslowski, Laboratory Manager
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Initial report from: 04/18/2019 20:30:05

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



051901746

PO Box 385
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MICROBIOLOGY – CHAIN OF CUSTODY

Date Collected	Date Submitted: 04/16/2019
Contact: John Smoyer	Company: AHERA Consultants, Inc.
Client: Woodbridge Twp School District	PO Box 385
PO Box 428 - School Street	Oceanville, NJ 08231-0385
Woodbridge, NJ 07095	Phone: (609) 652-1833
JOHN SMOYER	Fax: (609) 652-1140
Job Number: 18-3262	E-mail: ahera@comcast.net

Project Name: Indiana Avenue School #18 – IAQ Monitoring

<p>Air Samples</p> <p><input checked="" type="checkbox"/> Mold & Fungi by Air-O-Cell Cassette (Select turnaround time)</p> <p><input type="checkbox"/> Mold & Fungi by Agar Plate (Count & identification)</p> <p><input type="checkbox"/> Mold & Fungi by Agar Plate (Count only)</p> <p><input type="checkbox"/> Bacterial Count & Gram Stain</p> <p><input type="checkbox"/> Bacterial Count & Identification (Three most prominent types)</p> <p>Water Samples</p> <p><input type="checkbox"/> Total Count, Coliforms, Fecal Coliforms (Specify) _____</p> <p><input type="checkbox"/> Other (Specify) _____</p>	<p>Wipe & Bulk Samples</p> <p><input type="checkbox"/> Mold & Fungi – Direct Examination (Select turnaround time) Submit cellophane tape sample or bulk</p> <p><input type="checkbox"/> Mold & Fungi – Direct Examination- Follow up examination by culture if necessary</p> <p><input type="checkbox"/> Mold & Fungi – Culture (ID & Count)</p> <p><input type="checkbox"/> Mold & Fungi – Culture (Count only)</p> <p><input type="checkbox"/> Bacterial Count & Gram Stain</p> <p><input type="checkbox"/> Bacterial Count & Identification (Three most prominent types)</p>
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TURN AROUND TIME:
 SAME DAY 1 DAY 2 DAY 3 DAY 4 DAY 5 DAY 6-10 DAY

SAMPLE ID	LOCATION	VOLUME	COMMENTS
32620416-01	CLASSROOM #21	150L	Q-01
32620416-02	CLASSROOM #23	150L	Q-02
32620416-03	CLASSROOM #24	150L	Q-03
32620416-04	CLASSROOM #25	150L	Q-04
32620416-05	CLASSROOM #26	150L	Q-05
32620416-06	Room #32 PHYS ED OFFICE	150L	Q-07
32620416-07	Room #33 CUSTODIAL OFFICE	150L	Q-08
32620416-08	Room #34 MEDIA CENTER	150L	Q-09
32620416-09	Room #36 FACULTY LOUNGE	150L	Q-10
32620416-10	Room STORAGE ROOM Adj 23/24	150L	Q-06
32620416-11	OUTSIDE CONTROL ADJ	150L	Q-11
Relinquished by:	Technician Signature: <i>John Smoyer</i>	Date: 4/16/19	Time: 20:00
Received by:	Laboratory Representative:	Date:	Time:

RECEIVED

APR 16 2019
 BY NM 7:55 AM WT

IAQ Investigation Log	
Test ID:	School #18 Classroom 21
Model Number:	7545
Serial Number:	T75451819008
Test ID:	1
Test Abbreviation:	Test 001
Start Date:	4/16/19
Start Time:	15:53:02
Duration (dd:hh:mm:ss):	0:00:01:08
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 001



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	427	73	21.8	2.3
	Minimum:	418	72.4	21.6	2.3
	Time of Minimum:	15:53:39	15:54:10	15:53:21	15:53:39
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	441	73.8	22.1	2.3
	Time of Maximum:	15:53:07	15:53:07	15:53:07	15:54:10
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	15:53:07	441	73.8	22.1	Invalid
4/16/19	15:53:21	429	73.4	21.6	2.3
4/16/19	15:53:39	418	73	21.6	2.3
4/16/19	15:53:54	420	72.6	21.6	2.3
4/16/19	15:54:10	429	72.4	22	2.3

IAQ Investigation Log	
Test ID:	SCHOOL #18 Classroom 23
Model Number:	7545
Serial Number:	T75451819008
Test ID:	2
Test Abbreviation:	Test 002
Start Date:	4/16/19
Start Time:	15:59:50
Duration (dd:hh:mm:ss):	0:00:01:19
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 002



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	428	73	22.5	2.3
	Minimum:	423	72.9	22.3	2.2
	Time of Minimum:	16:00:22	16:00:53	16:00:22	16:00:22
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	441	73.5	22.9	2.3
	Time of Maximum:	16:00:37	15:59:55	15:59:55	16:00:37
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	15:59:55	425	73.5	22.9	2.3
4/16/19	16:00:22	423	73	22.3	2.2
4/16/19	16:00:37	441	72.9	22.3	2.3
4/16/19	16:00:53	427	72.9	22.3	2.3
4/16/19	16:01:09	426	72.9	22.5	2.3

IAQ Investigation Log	
Test ID:	SCHOOL #18 Classroom 24
Model Number:	7545
Serial Number:	T75451819008
Test ID:	3
Test Abbreviation:	Test 003
Start Date:	4/16/19
Start Time:	16:26:24
Duration (dd:hh:mm:ss):	0:00:01:09
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 003



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	425	73.1	25.1	2.3
	Minimum:	420	73	24.6	2.2
	Time of Minimum:	16:26:29	16:27:33	16:26:46	16:27:33
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	431	73.2	25.4	2.4
	Time of Maximum:	16:27:19	16:26:29	16:26:29	16:27:19
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	16:26:29	420	73.2	25.4	Invalid
4/16/19	16:26:46	423	73.1	24.6	2.3
4/16/19	16:27:04	424	73.1	25	2.3
4/16/19	16:27:19	431	73	25.2	2.4
4/16/19	16:27:33	426	73	25.2	2.2

IAQ Investigation Log	
Test ID:	SCHOOL #18 Classroom 25
Model Number:	7545
Serial Number:	T75451819008
Test ID:	4
Test Abbreviation:	Test 004
Start Date:	4/16/19
Start Time:	17:16:10
Duration (dd:hh:mm:ss):	0:00:01:10
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 004



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	440	74.3	23.5	2.3
	Minimum:	411	74.2	23.2	2.3
	Time of Minimum:	17:16:15	17:16:15	17:17:03	17:16:50
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	511	74.3	23.9	2.3
	Time of Maximum:	17:16:28	17:17:03	17:16:15	17:16:28
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	17:16:15	411	74.2	23.9	2.3
4/16/19	17:16:28	511	74.3	23.6	2.3
4/16/19	17:16:50	434	74.3	23.3	2.3
4/16/19	17:17:03	424	74.3	23.2	2.3
4/16/19	17:17:20	420	74.3	23.3	2.3

IAQ Investigation Log	
Test ID:	SCHOOL #18 Classroom 26
Model Number:	7545
Serial Number:	T75451819008
Test ID:	5
Test Abbreviation:	Test 005
Start Date:	4/16/19
Start Time:	17:21:15
Duration (dd:hh:mm:ss):	0:00:04:09
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 005



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	413	73	24.1	2.3
	Minimum:	407	72.7	24	2.3
	Time of Minimum:	17:21:20	17:25:24	17:24:46	17:21:20
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	417	73.5	24.3	2.3
	Time of Maximum:	17:25:24	17:21:20	17:25:24	17:25:10
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	17:21:20	407	73.5	24.1	2.3
4/16/19	17:24:46	415	73.1	24	2.3
4/16/19	17:24:57	410	72.9	24.1	2.3
4/16/19	17:25:10	415	72.7	24	2.3
4/16/19	17:25:24	417	72.7	24.3	2.3

IAQ Investigation Log	
Test ID:	SCHOOL #18 Storage Room Adj. 23/24
Model Number:	7545
Serial Number:	T75451819008
Test ID:	6
Test Abbreviation:	Test 006
Start Date:	4/16/19
Start Time:	17:28:30
Duration (dd:hh:mm:ss):	0:00:01:06
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 006



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	455	72.7	24.9	2.2
	Minimum:	420	72.5	23.7	2.2
	Time of Minimum:	17:28:35	17:28:35	17:28:35	17:29:17
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	488	72.9	26.1	2.3
	Time of Maximum:	17:29:36	17:29:17	17:29:17	17:28:35
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	17:28:35	420	72.5	23.7	2.3
4/16/19	17:28:50	478	72.8	25.1	2.3
4/16/19	17:29:06	447	72.8	25.5	2.3
4/16/19	17:29:17	441	72.9	26.1	2.2
4/16/19	17:29:36	488	72.7	24.2	2.2

IAQ Investigation Log	
Test ID:	SCHOOL #18 Room 32 - Physical Education Office
Model Number:	7545
Serial Number:	T75451819008
Test ID:	7
Test Abbreviation:	Test 007
Start Date:	4/16/19
Start Time:	17:43:30
Duration (dd:hh:mm:ss):	0:00:03:09
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 007



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	600	73.5	25.6	2.3
	Minimum:	591	73.4	25.4	2.3
	Time of Minimum:	17:46:39	17:43:35	17:46:39	17:46:27
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	607	73.6	25.8	2.3
	Time of Maximum:	17:43:35	17:46:27	17:43:35	17:43:35
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	17:43:35	607	73.4	25.8	2.3
4/16/19	17:43:54	598	73.5	25.8	2.3
4/16/19	17:44:08	605	73.5	25.6	2.3
4/16/19	17:46:27	597	73.6	25.4	2.3
4/16/19	17:46:39	591	73.6	25.4	2.3

IAQ Investigation Log	
Test ID:	SCHOOL #18 Room 33 - Custodial Office
Model Number:	7545
Serial Number:	T75451819008
Test ID:	8
Test Abbreviation:	Test 008
Start Date:	4/16/19
Start Time:	17:58:29
Duration (dd:hh:mm:ss):	0:00:13:46
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 008



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	452	73.1	18.9	2.2
	Minimum:	418	72.8	18.3	2.2
	Time of Minimum:	18:02:47	18:02:47	18:02:47	17:58:34
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	547	73.7	19.1	2.3
	Time of Maximum:	18:11:57	18:11:30	18:11:57	18:12:15
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	17:58:34	422	72.9	18.9	2.2
4/16/19	18:02:47	418	72.8	18.3	2.2
4/16/19	18:11:30	431	73.7	19.1	2.2
4/16/19	18:11:57	547	73.3	19.1	2.3
4/16/19	18:12:15	441	72.9	19	2.3

IAQ Investigation Log	
Test ID:	SCHOOL #18 Room 34 - Media Center
Model Number:	7545
Serial Number:	T75451819008
Test ID:	9
Test Abbreviation:	Test 009
Start Date:	4/16/19
Start Time:	18:21:00
Duration (dd:hh:mm:ss):	0:00:01:21
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 009



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	409	71.3	20.8	2.2
	Minimum:	407	71	20.6	2.1
	Time of Minimum:	18:21:43	18:21:43	18:21:05	18:21:05
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	414	71.7	21.1	2.3
	Time of Maximum:	18:21:22	18:21:05	18:21:59	18:21:59
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	1/0/00			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	18:21:05	410	71.7	20.6	2.1
4/16/19	18:21:22	414	71.2	20.6	2.3
4/16/19	18:21:43	407	71	20.8	2.3
4/16/19	18:21:59	409	71.3	21.1	2.3
4/16/19	18:22:21	407	71.1	21	2.1

IAQ Investigation Log	
Test ID:	SCHOOL #18 Room 36 Faculty Lounge
Model Number:	7545
Serial Number:	T75451819008
Test ID:	10
Test Abbreviation:	Test 010
Start Date:	4/16/19
Start Time:	18:26:01
Duration (dd:hh:mm:ss):	0:00:01:34
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 010



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	446	73.2	22.9	2.1
	Minimum:	418	72.8	22.5	1.9
	Time of Minimum:	18:26:06	18:26:06	18:27:35	18:26:55
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	479	73.8	23.1	2.2
	Time of Maximum:	18:27:18	18:27:35	18:26:06	18:27:18
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	18:26:06	418	72.8	23.1	2.2
4/16/19	18:26:39	436	72.8	23	2
4/16/19	18:26:55	438	73.1	22.9	1.9
4/16/19	18:27:18	479	73.5	22.9	2.2
4/16/19	18:27:35	458	73.8	22.5	2

IAQ Investigation Log	
Test ID:	SCHOOL #18 Outside Control Sample Adj. Entrance #4
Model Number:	7545
Serial Number:	T75451819008
Test ID:	11
Test Abbreviation:	Test 011
Start Date:	4/16/19
Start Time:	18:34:36
Duration (dd:hh:mm:ss):	0:00:03:46
Log Interval (mm:ss):	0:05
Number of points:	5
Notes:	Test 011



Statistics	Channel:	CO2 - Carbon Dioxide	T - Temperature	H - Humidity	CO - Carbon Monoxide
	Units:	ppm	deg F	%rh	ppm
	Average:	401	68.6	22.7	2.5
	Minimum:	394	63.4	19.3	2.3
	Time of Minimum:	18:35:54	18:38:22	18:35:54	18:34:41
	Date of Minimum:	4/16/19	4/16/19	4/16/19	4/16/19
	Maximum:	412	75.5	25.1	2.7
	Time of Maximum:	18:34:41	18:34:41	18:38:22	18:38:22
	Date of Maximum:	4/16/19	4/16/19	4/16/19	4/16/19

Calibration	Meter:	5/10/18			
Calibration	Sensor:	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
	Cal. Date	5/10/18	5/10/18	5/10/18	5/10/18

Date	Time	CO2 - Carbon Dioxide	T-Temperature	H-Humidity	CO - Carbon Monoxide
MM/DD/YYYY	hh:mm:ss	ppm	deg F	%rh	ppm
4/16/19	18:34:41	412	75.5	23.1	2.3
4/16/19	18:35:54	394	70.5	19.3	2.6
4/16/19	18:37:16	400	68.1	22.1	2.3
4/16/19	18:37:57	400	65.4	23.7	2.5
4/16/19	18:38:22	401	63.4	25.1	2.7