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MEMBERS OF:



**LIMITED MICROBIAL & IAQ SURVEY
CLOSING REPORT
SOUTHEASTERN SCHOOL DISTRICT
02/13/2015**

**PROJECT LOCATION:
DELTA PEACH BOTTOM ELEMENTARY**

**PROJECT CONTRACT FOR:
DR. RONA KAUFMANN**

**Respectfully Submitted,
PROAC Corporation**

**Walt Saunders, CIEC
Industrial Hygienist**



**Reviewed By,
PROAC Corporation**

**Dean R. Klopp, CIE, CMR, ASCS
President**



“WE’RE RESPONSIBLE FOR OUR CLIENTS’ SATISFACTION”

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SUMMARY OF FINDINGS:

On February 13, 2015, a Limited Fungal and Indoor Air Quality Survey was performed at the Delta Peach Bottom Elementary School located in Delta, PA. The project was performed and supervised by:

Walt Saunders, CIEC, LEED GA®, Industrial Hygienist, PROAC Corporation
Dean Klopp, CIE, CMR, ASCS, VSMR, PROAC Corporation
Jerry Fessler, Crew Leader, PROAC Corporation

The survey included direct reading measurements of Total Volatile Organic Compounds (TVOC), Carbon Dioxide (CO₂), Carbon Monoxide (CO), Temperature, Relative Humidity, and Particle Counts. An "AMPROBE" digital sling psychrometer was used to obtain temperature and relative humidity readings. Carbon Dioxide (CO₂), Carbon Monoxide (CO) and Total Volatile Organic Compounds (TVOC's) were sampled using a "MultiRAE IR", PGM-54 Multi-Gas Monitor. Range of gases begins at "0" and the resolution is 10ppm for CO₂, 1ppm for CO. No significant readings were revealed.

Particle counts were obtained with a Six Channel, Laser Hand Held Particle Counter (Met-One GT 526). Micron size of particles documented include; .3, .5, 1, 2, and 5 (um).

Airborne, total fungi were sampled in twenty-three (23) indoor locations including two (2) outdoor locations for comparison. Samples were obtained from each location using a Bio Pump sampler and Allergenco D cassettes as recommended for IAQ studies by EPA and American Industrial Hygiene Association (AIHA). The pump was calibrated to meet the flow rate of 15 L/minute +/- 1% and the samples were drawn for five (5) minutes.

Typically, the fungal profile of the indoor samples should be similar to and of a lower concentration than the outdoor samples. The weather on the day of the survey was very cold with snow cover and subsequently, the outdoor samples revealed very low levels of fungal growth or no fungal growth. Although several of the indoor samples revealed a higher concentration of fungi as compared to the outdoor samples, all areas sampled revealed very low levels of common fungi.

Direct air readings and microbiological samples were taken from the following locations:

Outside Main Office	Outside D-6 Entrance
Nurse's Office	Library
Computer Room	Room # 13
Room # 19	Room # 20
Room # 14	Room # 24
Room # 10	Multi Purpose Room
Room # 27	Room # 30
Room # 36	Room # 41
Room # 40	Room # 42
Room # 35	Room # 23
Room # 9	

GAS SAMPLING AND PARTICLE COUNTS

The weather on the day of the testing was cold and clear with ambient air temperatures ranging from 27°F–31°F. Relative humidity (RH) readings outside ranged from 17% to 18%. Carbon dioxide (CO₂) readings outside ranged from 360 parts per million (ppm) to 410 ppm. Carbon Monoxide (CO) and Volatile Organic Compound (VOC's) readings outside were very low.

Temperatures indoors were ranged between 65°F and 71°F while RH readings indoors ranged from 11% to 30%. The American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE) have suggested that for optimum comfort, indoor temperatures should range from 68.5-76 degrees F at 30% RH. The guidelines also suggest 30% RH as the minimum indoor humidity level and 60% as the maximum indoor humidity level (ASHRAE Standard 55-1992).

ASHRAE has also suggested that for optimum comfort, **Carbon Dioxide** levels should not exceed 700 ppm above ambient air. CO₂ levels indoors ranged from 490 ppm and 1060 ppm. **Carbon Monoxide** readings registered 0.0 throughout the survey.

Total Volatile Organic Compound readings were 0.0 ppm throughout the survey.

Particle Counts were recorded in five sizes of microscopic particulate. Data collected is used only as an indicator of dusty environments or for relative comparison. Higher counts may be an indicator of high occupancy, low efficiency filtration, lack of hygiene, use of paper products or processes, etc. Particle counts were generally lower as compared to the outdoors.

MICROBIOLOGICAL SAMPLES

Media Used

Total Countable Fungal Spores

Allegenco D Sampling Cassettes

Microbiological Tests were obtained in seventeen (17) test areas. There are currently no standards regarding the amount of fungal or bacterial (microbial) contamination on surfaces or in the air. There are, however, guidelines to assist IAQ professionals with comparing their survey data to study data. References are listed below. According to the American Conference of Government Industrial Hygienists (ACGIH) and the EPA, the recommended level for microbiological exposure is an equal or lower quantity inside the building than found outside the building. Also, indoor samples should have the same kind, rank and order of organisms that are found outdoors. Samples are as follows:

23 Samples for Total Countable Fungal Spores

Outside Air Samples -Two (2) outside samples were obtained for comparison with the indoor environment. These samples are used to determine if contamination is entering the building from outdoors.

The weather on the day of the survey was very cold with a snowpack. It should be noted that ground cover of snow will reduce ambient fungal counts.

The outdoor sample obtained from the front entrance revealed no fungal spores present. The sample obtained from the D-6 entrance revealed very low levels of *Cladosporium* and Pen/Asp like spores.

Indoor Air Samples –Twenty one (21) samples were obtained from locations inside the school.

No fungal growth was noted in the samples obtained in Room #'s 20, 14, 27, 38, 42, 35 and 23.

Minimal concentrations of common fungi were revealed in the remaining samples.

HVAC INSPECTIONS

A total of seven (7) rooftop units and 18 heat pumps were inspected for general hygiene and operating conditions. All units were found to be clean an operating as intended. There was no visual indication of fungal growth in any unit inspected.

RECOMMENDATIONS:

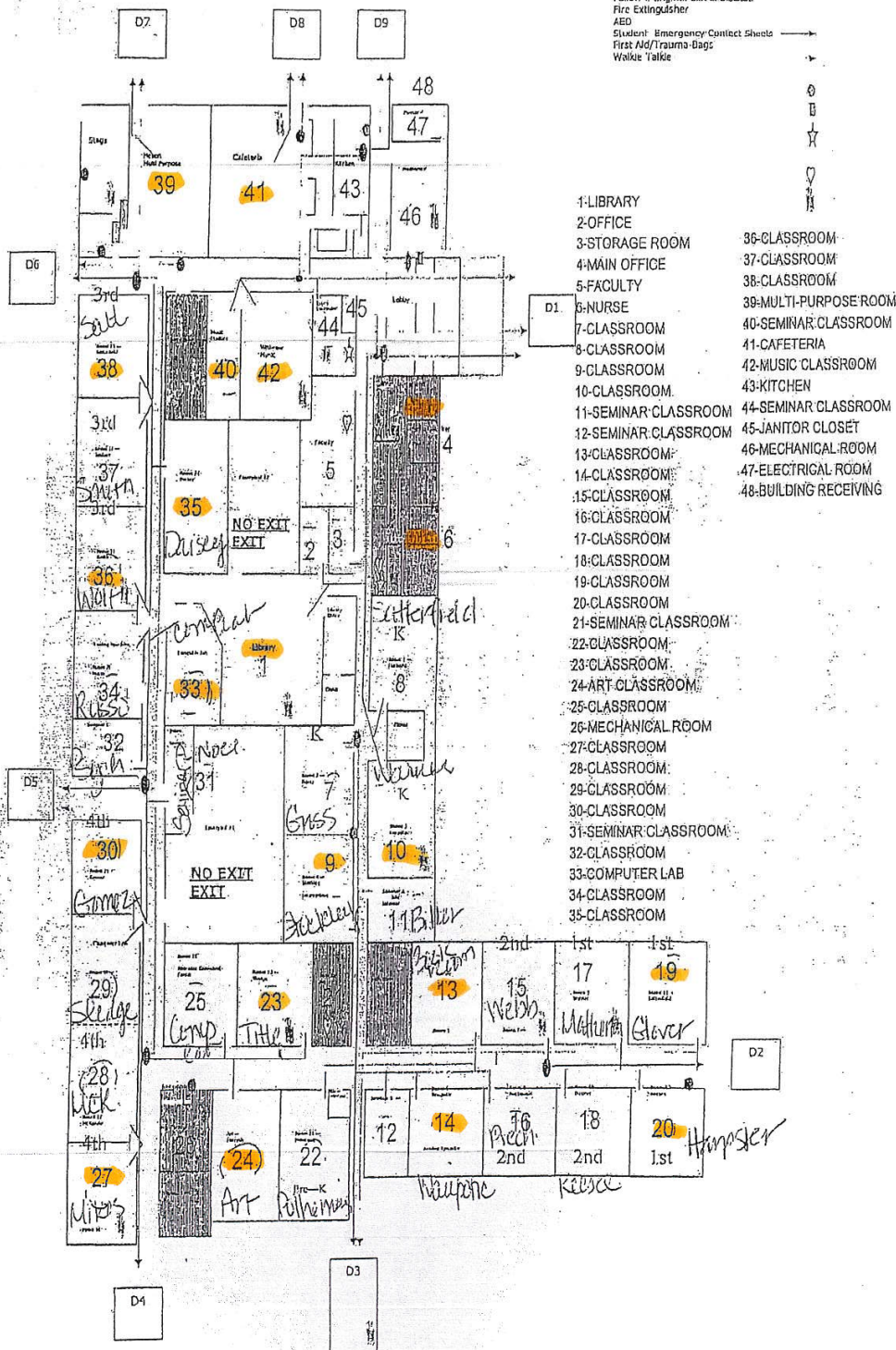
Recommendations should be generally followed in the order given.

- A)** All commercial AHU's should be inspected and/or cleaned on a yearly basis and the associated ductwork should be inspected and/or cleaned *at least* every two (2) years, according to the National Air Duct Cleaning Association (NADCA) ACR 2013.
- B)** Place AHU's under a proactive maintenance program that includes: 1) Clean, sanitize, coat coils with anti-foulant; 2) Clean and sanitize HVAC wipe surfaces of grease and dirt; 3) Clean returns and O.A.; 4) Biocidal drain pan treatment.

Delta Elementary Fire Exit Map
Updated 8/20/13

KEY:

Original fire exit route
Follow if original exit is blocked
Fire Extinguisher
AED
Student Emergency Contact Sheets
First Aid/Trauma Bags
Walkie Talkie



Prestige EnviroMicrobiology, Inc. Tel: 856-767-8300
242 Terrace Boulevard, Suite B-1, Voorhees, New Jersey 08043

Fax: 856-767-8305

Prestige Proj #: 150216-13

By 1 of 2
Client proj #: DGA - Forest Bottom Elem

Chain-of-Custody and Analysis Request Form

Client name: Pace Corp Tel: _____

P.O. #: _____

Address: _____

Fax: _____

E-mail: _____

Date sampled: _____

Sample ID	Location of source	Sample type	Air vol (L) Area (inch ²)	Water: potable or non-potable	Analysis requests code or description	Turnaround time	Notes or special instructions
#1	OUTSIDE FRONT	SPRINK TRAP	75 L		PC01		
#2	NUISE						
#3	OFFICE						
#4	LIBRARY						
#5	Computer Lab						
#6	Rm #13						
#7	Rm #14						
#8	Rm #20						
#9	Rm #14						
#10	Rm #24						
#11	Rm #10						

Contact name: _____

Submitted by: (sign & print)

Date submitted: 9/13/15

Delivered by: Fedex, UPS, USPS, in person

2-16-15,

Date & time received: 11:10AM

Received by: (sign & print)

Date: _____

Sample type: _____

(For lab use only) Processed by: _____

Prestige EnviroMicrobiology, Inc. Tel: 856-767-8300
242 Terrace Boulevard., Suite B-1, Voorhees, New Jersey 08043

Fax: 856-767-8305

Prestige Proj. #: 150216-13

Chain-of-Custody and Analysis Request Form

Client name: Pace Corp Tel: _____
Address: _____ Fax: _____
Client proj. #: Delta - Beach Bottom -
P.O. #: _____
Date sampled: _____

Sample ID	Location or source	Sample type	Air vol (L) Area (inch ²)	Water: potable or non-potable	Analysis requests code or description	Turnaround time	Notes or special instructions
#12	Rm #27	Spec Top	75L		Pool		
#13	Rm #30						
#14	Rm #36						
#15	Rm #38						
#16	Rm #39 - multi purpose						
#17	Rm #41 Caf						
#18	Rm #40						
#19	Rm #42						
#20	Rm #35						
#21	Rm #23						
#22	Rm #9						

#23 Outside #2
Contact name: _____ Submitted by: (sign & print) _____ Date submitted: _____

Received by: (sign & print) J. B. Black, K. Bullick Date & time received: 2-16-15, 11:10AM Delivered by: Fedex, UPS, USPO, in person

(For lab use only) Processed by: _____ Sample type: _____ Date: _____

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www.prestige-em.com

Analytical Test Report

Client: Proac Corporation, 8401 South Lancaster Ave, Bethel, PA 19507

Client Project: Delta-Peach Bottom Elem.

Sample date: NA

Submittal date: 2-13-2015

Samples submitted by: Walt Saunders

Date analysis completed: February 18, 2015

Prestige report number: 150216-13

Microscopic Method (P001): Analysis of Allergenco Samples for Total Fungal Structures by Optical Microscopy

Prestige # Client sample ID Location	Air vol. (m ³)	% read	Presumptive fungal ID	Counts of fungal structures	Fungal structures/m ³	Percentage	Background rating
150216-13-066 #1 Outside Front	0.075	25.5	No spores observed	ND	<52 Total <52	NA	1
150216-13-067 #2 Nurse	0.075	25.5	myxomycetes	1	52 Total 52	100%	1
150216-13-068 #3 Office	0.075	25.5	ascospores <i>Cladosporium</i>	1 1	52 52 Total 100	50% 50%	2
150216-13-069 #4 Library	0.075	25.5	hyphal fragments Pen/Asp-like	1 2	52 100 Total 150	34% 66%	2
150216-13-070 #5 Computer Lab	0.075	25.5	Pen/Asp-like	1	52 Total 52	100%	2
150216-13-071 #6 Rm #13	0.075	25.5	ascospores	1	52 Total 52	100%	1
150216-13-072 #7 Rm #19	0.075	25.5	myxomycetes	1	52 Total 52	100%	1
150216-13-073 #8 Rm #20	0.075	25.5	No spores observed	ND	<52 Total <52	NA	1
150216-13-074 #9 Rm #14	0.075	25.5	No spores observed	ND	<52 Total <52	NA	1
150216-13-075 #10 Rm #24	0.075	25.5	hyphal fragments myxomycetes Pen/Asp-like unknowns	1 1 4 1	52 52 210 52 Total 370	14% 14% 57% 14%	2
150216-13-076 #11 Rm #10	0.075	25.5	<i>Cladosporium</i>	1	52 Total 52	100%	1

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150216-13-077 #12 Rm #27	0.075	25.5	No spores observed	ND	<52 Total <52	NA	1
150216-13-078 #13 Rm #30	0.075	25.5	Pen/Asp-like	1	52 Total 52	100%	1
150216-13-079 #14 Rm #36	0.075	25.5	<i>Pithomyces</i> Pen/Asp-like	1 1	52 52 Total 100	50% 50%	1
150216-13-080 #15 Rm #38	0.075	25.5	No spores observed	ND	<52 Total <52	NA	1
150216-13-081 #16 Rm #39-Multi Purpose	0.075	25.5	Pen/Asp-like	1	52 Total 52	100%	1
150216-13-082 #17 Rm #41 Cafe	0.075	25.5	<i>Cladosporium</i> Pen/Asp-like	1 1	52 52 Total 100	50% 50%	1
150216-13-083 #18 Rm #40	0.075	25.5	<i>Cladosporium</i> hyphal fragments	1 1	52 52 Total 100	50% 50%	1
150216-13-084 #19 Rm #42	0.075	25.5	No spores observed	ND	<52 Total <52	NA	1
150216-13-085 #20 Rm #35	0.075	25.5	No spores observed	ND	<52 Total <52	NA	1
150216-13-086 #21 Rm #23	0.075	25.5	No spores observed	ND	<52 Total <52	NA	1
150216-13-087 #22 Rm #9	0.075	25.5	<i>Pithomyces</i>	1	52 Total 52	100%	1
150216-13-088 #23 Outside #2	0.075	25.5	<i>Cladosporium</i> Pen/Asp-like	1 1	52 52 Total 100	50% 50%	1

Report approved: Theresa Lehman
Theresa Lehman, MPH, Lab Director

Technical Manager: Chin S Yang
Chin S Yang, Ph.D.

Analyst: Theresa Lehman

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1. The samples in this report were received in good, acceptable conditions. Prestige EnviroMicrobiology has not performed sample collection for the sample items listed in this report. Results relate only to the items tested.
2. Percentage is for each group in total population.
3. Concentrations and percentages are rounded to the nearest two significant digits. Total percentage may not add up to 100% due to rounding.
4. Background rating 1-5 (1 being the lowest and 5 the highest) indicates density of sample deposit. The higher the sample deposit is, the more likely some fungal structures are obscured. A "0" background indicates no trace was observed.
5. The detection limit of this analysis is one fungal colony, one bacterial colony or one fungal structure. The analytical sensitivities vary from analysis to analysis or by air volume. For calculation of your analytical sensitivities, please visit our webpage <http://prestige-em.com/index-tech.htm> or contact us by calling 856-767-8300 or by email info@Prestigeem.com.
6. For technical information on result interpretation, please visit www.Prestige-EM.com.



INDOOR AIR QUALITY SURVEY

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Purpose: **LIMITED MICROBIAL & IAQ SURVEY** Location: **DELTA PEACH BOTTOM ELEMENTARY**

DATE: 02/13/2015

NO.	TIME	TEMP °F	RELATIVE HUMIDITY	CARBON DIOXIDE	CO	TVOC	OCCUPANCY #PERSONS	COMMENTS
1	9:15	27	18	360	0	0	0-1	OUTSIDE FRONT
2	9:32	65	30	490	0	0	1-2	NURSE
3	9:43	67	16	600	0	0	3-4	OFFICE
4	10:13	67	17	530	0	0	3-4	LIBRARY
5	10:10	68	21	780	0	0	16-17	COMPUTER LAB
6	10:38	69	14	840	0	0	0-1	ROOM 13
7	10:45	70	12	800	0	0	15-16	ROOM 19
8	10:52	70	11	660	0	0	3-4	ROOM 20
9	11:01	71	12	750	0	0	1-2	ROOM 14
10	11:10	70	16	880	0	0	9-10	ROOM 24
11	12:00	67	18	840	0	0	0-1	ROOM 10
12	12:11	69	22	580	0	0	0-1	ROOM 27
13	12:27	69	18	630	0	0	0-1	ROOM 30
14	12:34	69	19	780	0	0	1-2	ROOM 36
15	12:41	71	18	680	0	0	0-1	ROOM 38
16	12:47	71	10	530	0	0	0-1	ROOM 39 MULTI
17	12:53	71	11	580	0	0	1-2	ROOM 41 CAFÉ
18	1:00	70	16	730	0	0	0-1	ROOM 40
19	1:09	70	16	610	0	0	0-1	ROOM 42

DATE: 02/13/2015

[illegible]



PARTICLE COUNTS

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Purpose: **IAQ MEASUREMENT & DOCUMENTATION**

Location: **DELTA PEACH BOTTOM ELEMENTARY**

DATE: 02/13/2015

NO.	.3	.5	1.0	2.0	5.0	COMMENTS
1	11944	1904	383	126	7	OUTSIDE FRONT
2	4394	665	111	40	0	NURSE
3	6167	1131	354	192	44	OFFICE
4	1319	222	74	50	24	LIBRARY
5	2691	423	103	54	9	COMPUTER LAB
6	3601	545	89	20	2	ROOM #13
7	5303	818	162	53	3	ROOM #19
8	4878	753	141	48	6	ROOM #20
9	4126	647	130	49	6	ROOM #14
10	3730	727	284	189	67	ROOM #24
11	3067	507	117	53	8	ROOM #10
12	6329	1037	193	62	2	ROOM #27
13	5218	852	162	51	2	ROOM #30
14	2691	468	138	81	29	ROOM #36
15	3161	579	114	43	2	ROOM #38
16	2439	330	52	11	1	ROOM #39 MULTI
17	2669	382	72	33	4	ROOM #41 CAFÉ
18	2845	428	72	24	7	ROOM #40
19	1960	275	41	14	4	ROOM #42

Location: **DELTA PEACH BOTTOM ELEMENTARY**

[illegible]

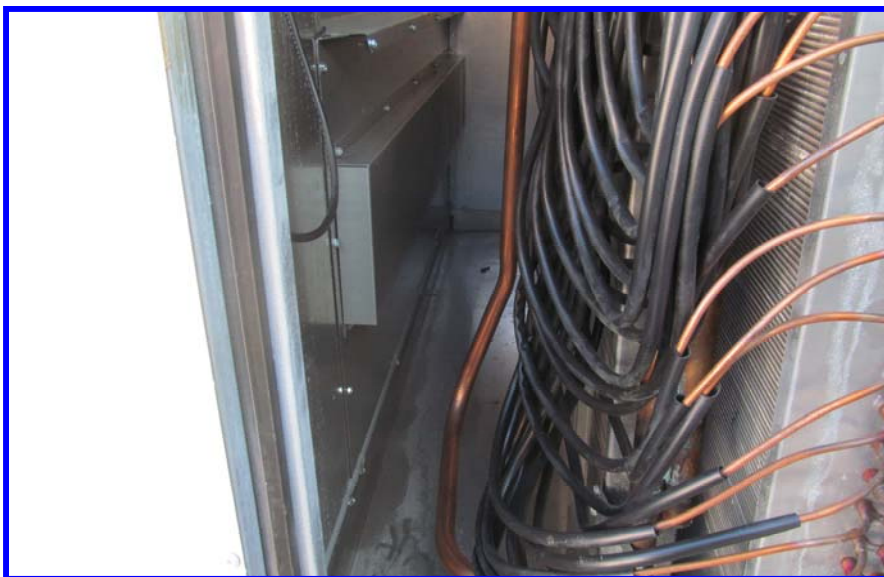
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

CAFETERIA ROOF UNIT HP3



CAFETERIA ROOF UNIT HP3 CONDENSATE DRAIN PAN & EVAPORATOR COILS



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

CAFETERIA ROOF UNIT HP3 RETURN AIR FILTERS



ROOF MECHANICAL UNIT H12



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOF MECHANICAL UNIT HP12 CONDENSTATE DRAIN PAN & EVAPORATOR COILS



ROOF MECHANICAL UNIT H12 RETURN AIR FILTERS



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOF STORAGE UNIT ERV 10



CLASSROOMS ERV 10 CONDENSATE DRAIN PAN & EVAPORATOR COILS



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

CLASSROOMS ERV 10 RETURN AIR FILTERS



ROOF B 35-B40 ERV 4 UNIT



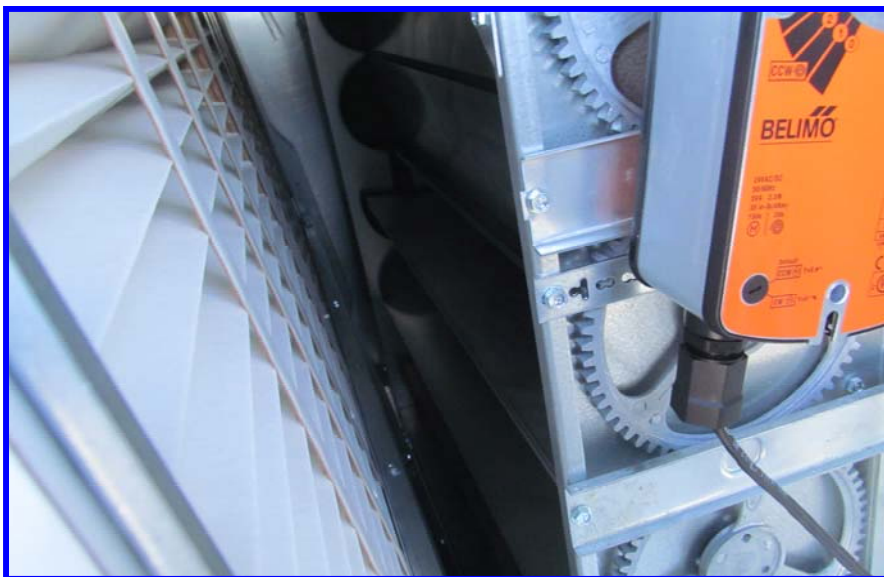
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOF B 35-B40 ERV 4 CONDENSATE DRAIN PAN & EVAPORATOR COILS



ROOF B 35-B40 ERV 4 RETURN AIR FILTERS



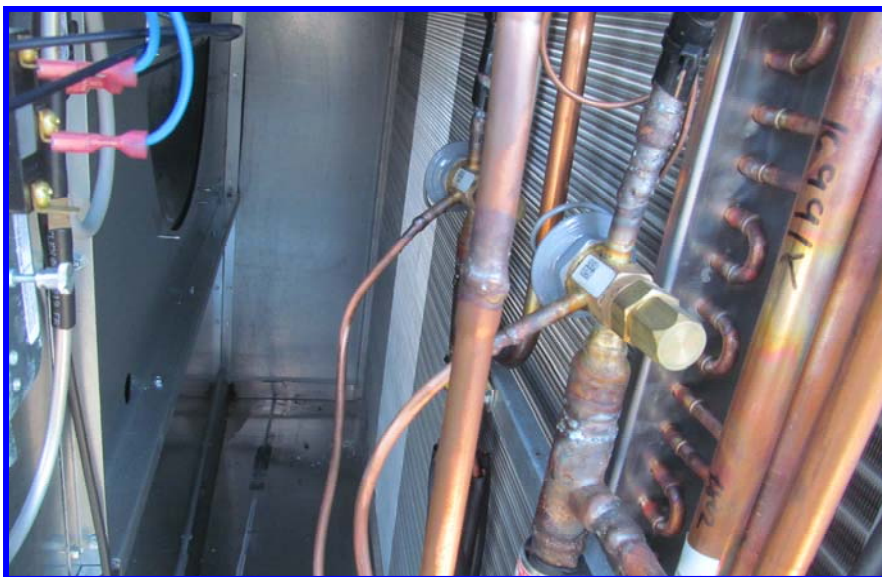
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOF B 26-B27 ERV 1 UNIT



ROOF B 26-B27 ERV 1 CONDENSATE DRAIN PAN & EVAPORATOR COILS



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOF B 26-B27 ERV 1 RETURN AIR FILTERS



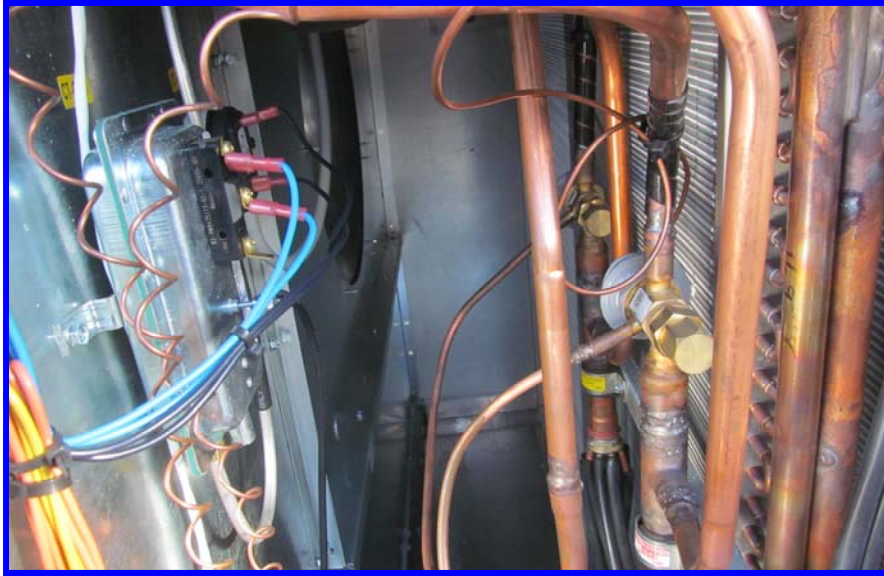
ROOF B 14 OFFICES ERV 3 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOF B 14 OFFICES ERV 3 CONDENSATE DRAIN PAN & EVAPORATOR COILS



ROOF B 14 OFFICES ERV 3 RETURN AIR FILTERS



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOF C WING ERV 5 UNIT



ROOF C WING ERV 5 CONDENSATE DRAIN PAN & EVAPORATOR COILS



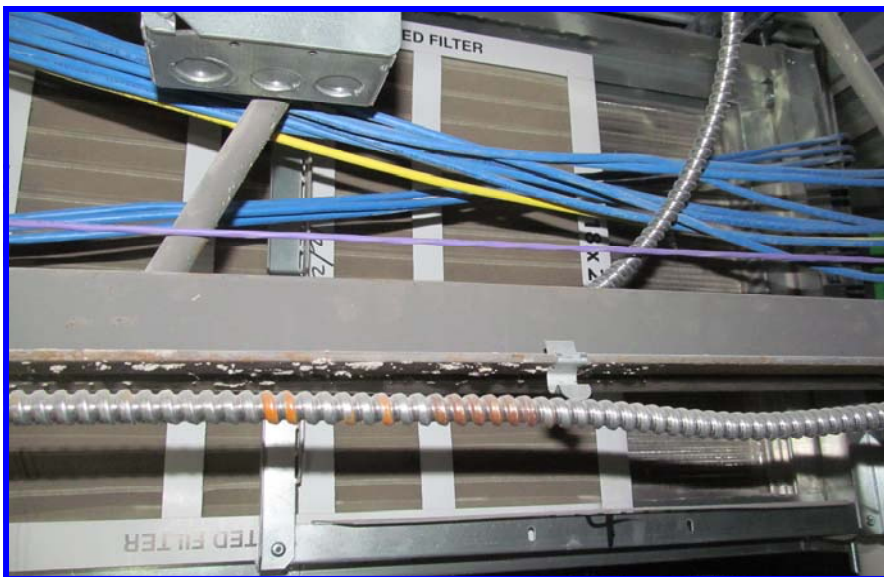
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOF C WING ERV 5 RETURN AIR FILTERS



OFFICE HP 16 UNIT & RETURN



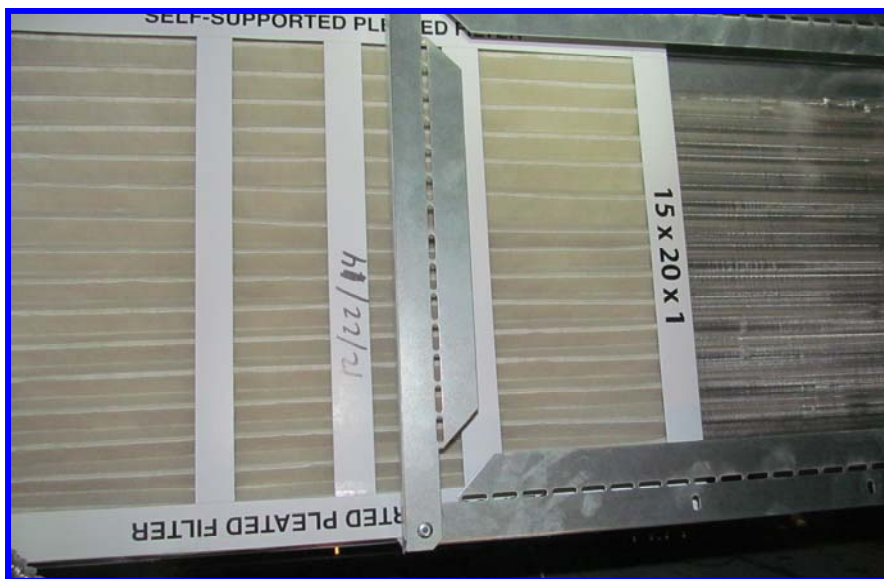
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

OFFICE HP 16 TRAP



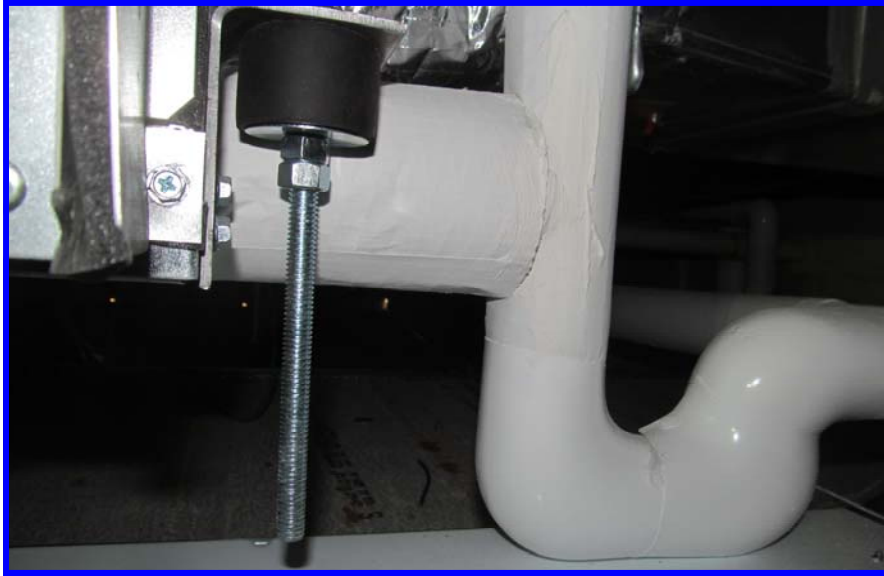
NURSE'S OFFICE HP 8 UNIT & RETURN



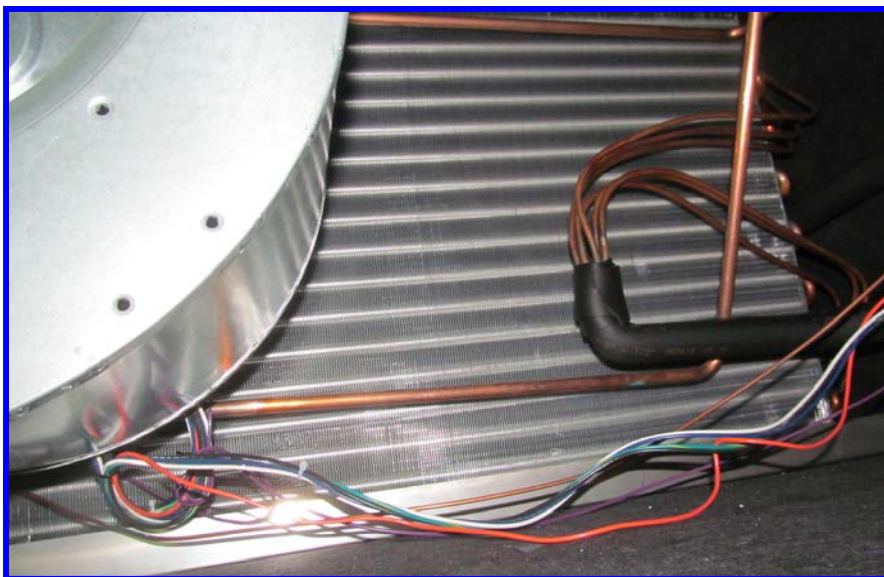
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

NURSE'S OFFICE HP 8 TRAP



NURSE'S OFFICE HP 1 EVAPORATOR COIL & BLOWER



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

NURSE'S OFFICE HP 1 RETURN AIR FILTERS



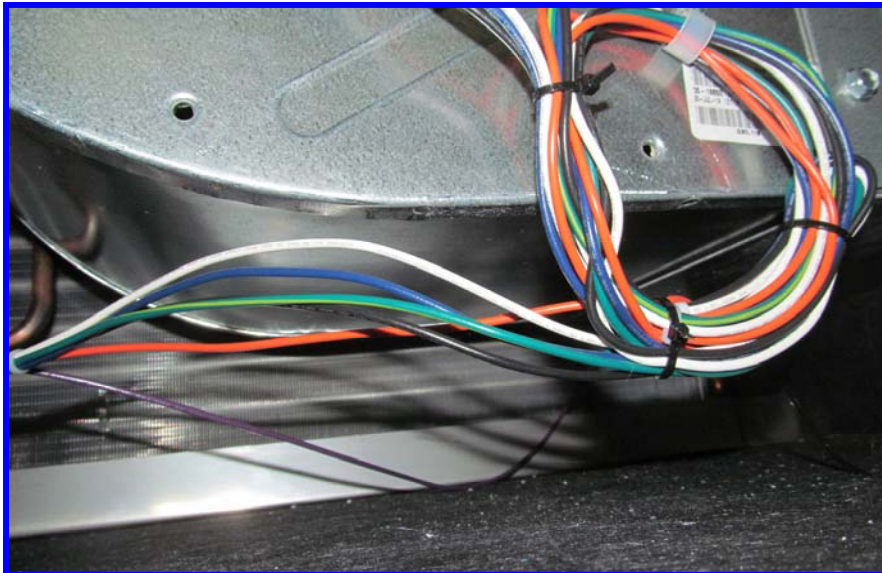
ROOM 11 B 13 HP 14 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOM 11 B13 HP 14 UNIT EVAPORATOR COILS & BLOWER



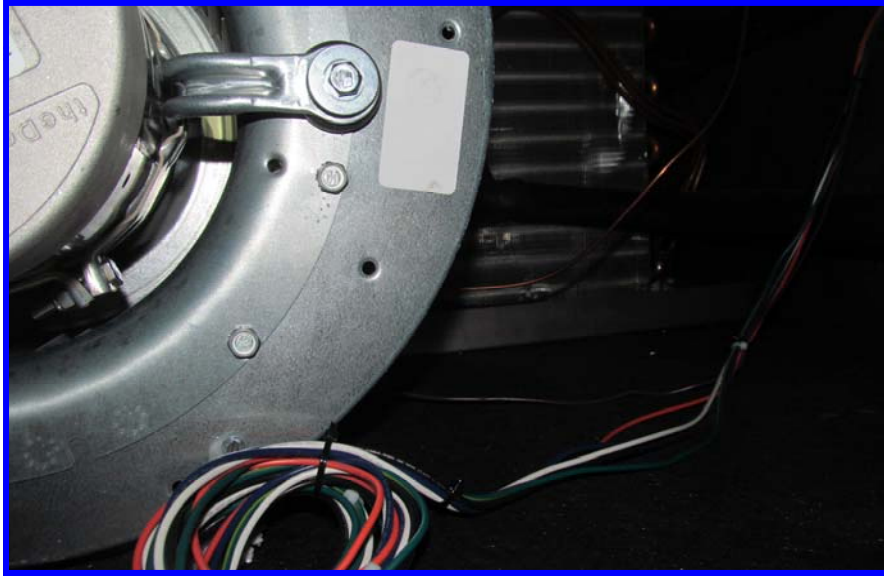
ROOM 19 C20 HP 2 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOM 19 C20 HP 2 EVAPORATOR COILS & BLOWER



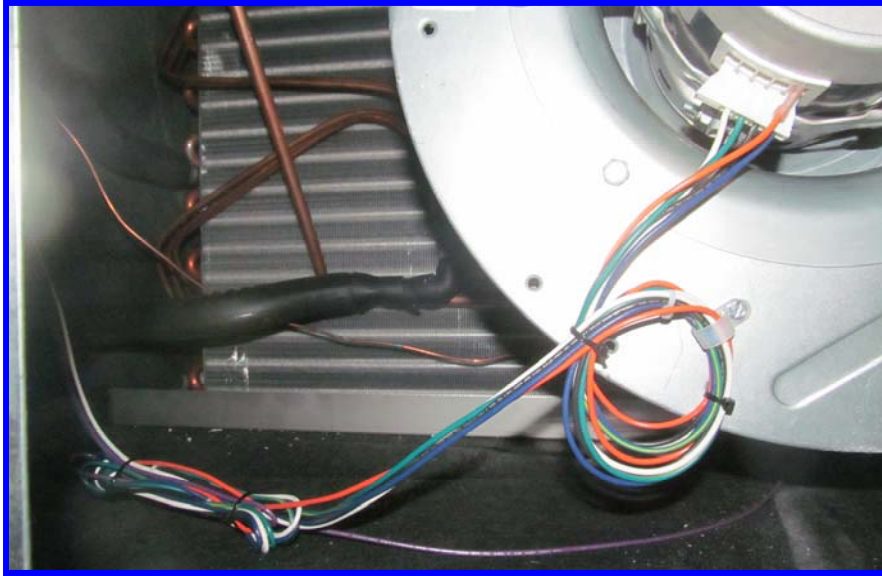
ROOM 18 C16 HP 2 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOM 18 C16 HP 2 EVAPORATOR COILS & BLOWER



ROOM 13 C25 HP 2 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOM 13 C 25 HP 2 EVAPORATOR COILS & DRAIN PAN



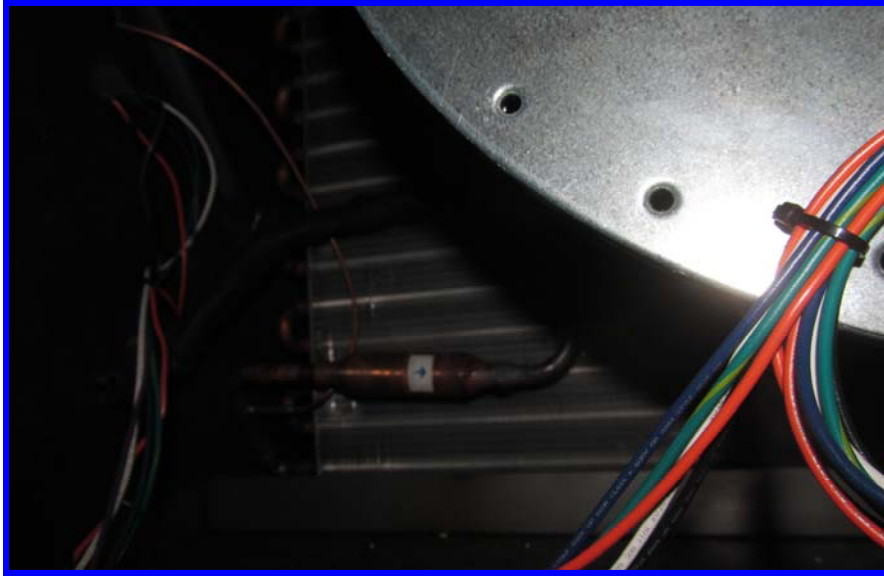
ROOM 12 C13 HP 14 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOM 12 C13 HP14 EVAPORATOR COIL & BLOWER



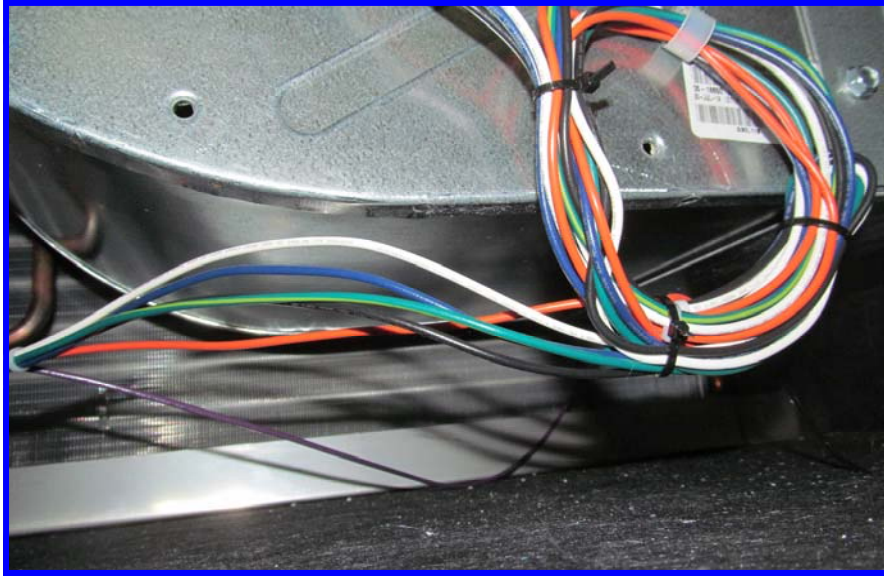
ROOM 24 B31 HP 2 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOM 24 B31 HP 2 EVAPORATOR COIL & BLOWER



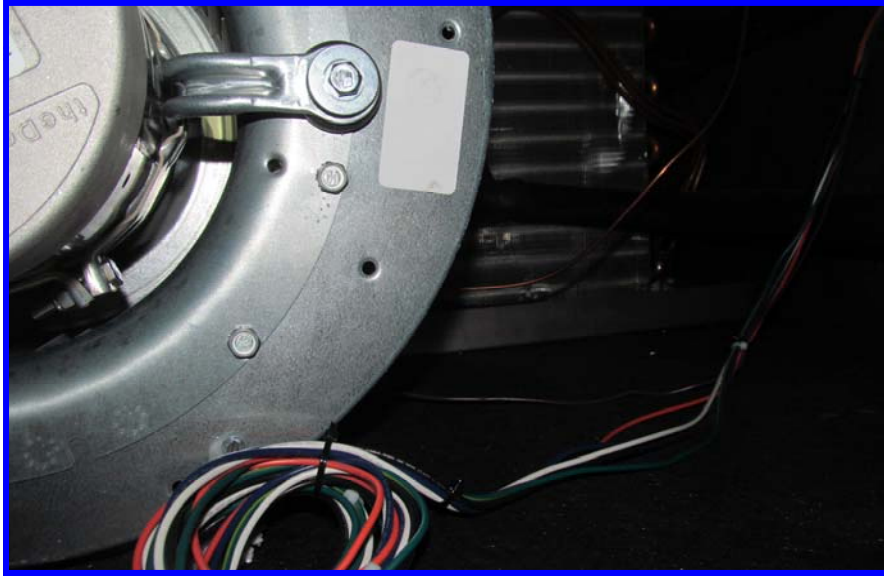
ROOM 25 B27 HP 1 UNIT



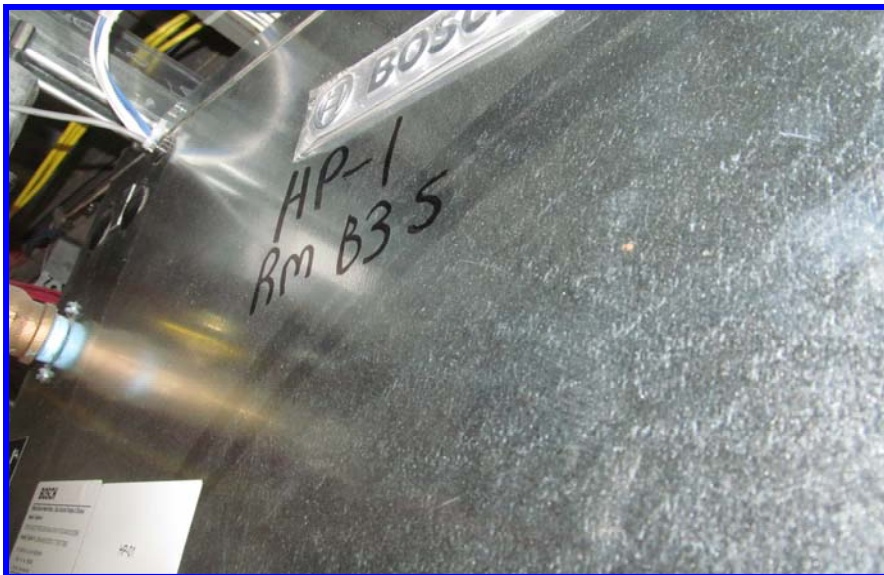
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

ROOM 25 B27 HP 1 UNIT EVAPORATOR COIL & BLOWER



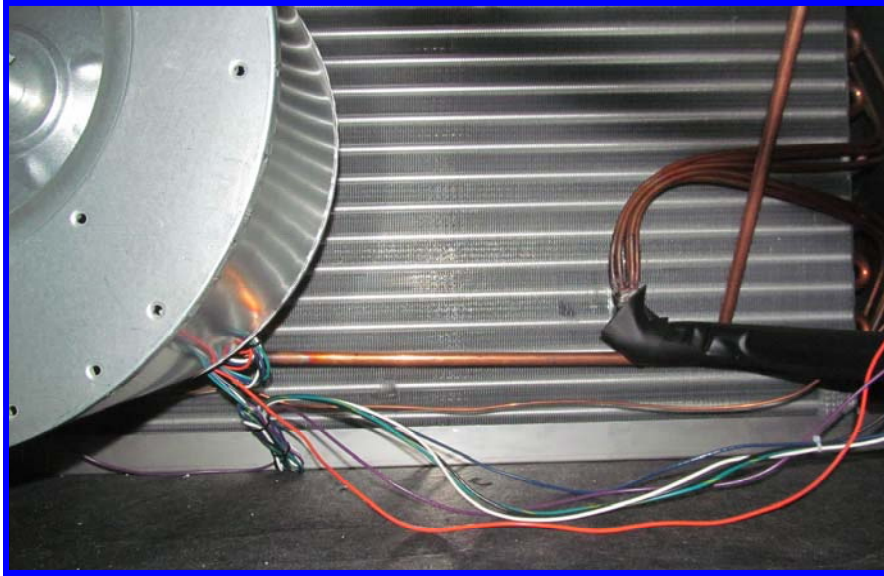
B35 HP 1 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

B35 HP 1 UNIT EVAPORATOR COIL & BLOWER



B38 HP 1 UNIT



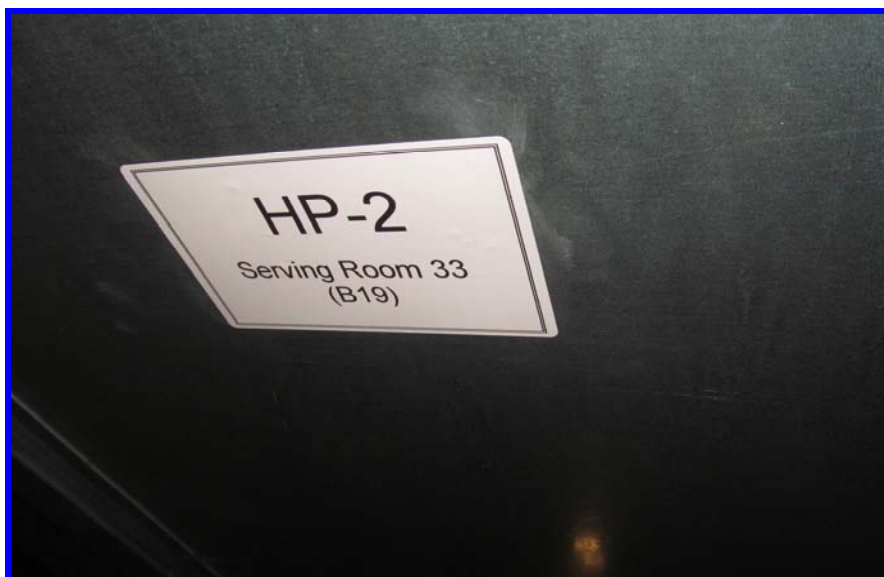
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

B38 HP 1 UNIT EVAPORATOR COIL & BLOWER



B19 ROOM 33 HP 2 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

B19 ROOM 33 HP 2 UNIT EVAPORATOR COIL & BLOWER



A42 HP 1 ROOM 36 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

A42 HP 1 ROOM 36 UNIT EVAPORATOR COIL & BLOWER



A38 HP 1 ROOM 35 UNIT



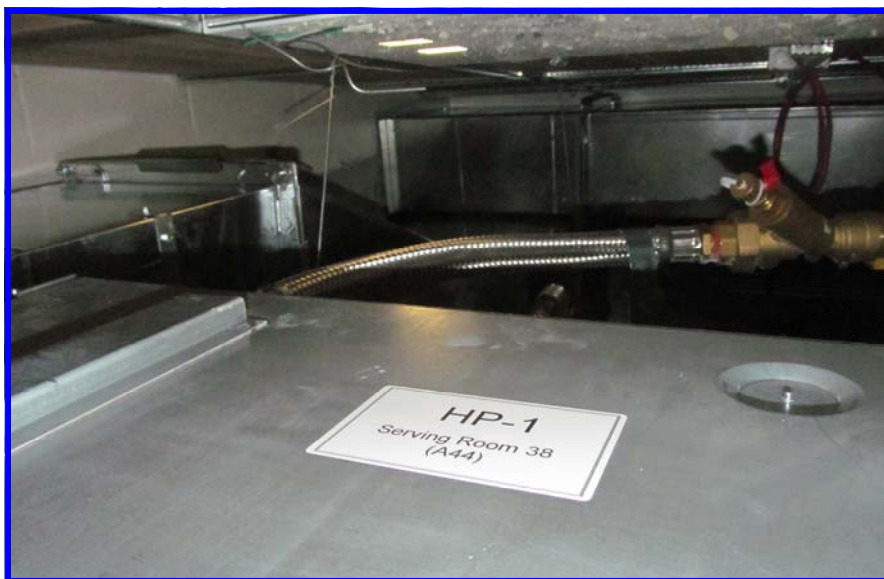
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

A38 HP 1 ROOM 35 UNIT EVAPORATOR COIL & BLOWER



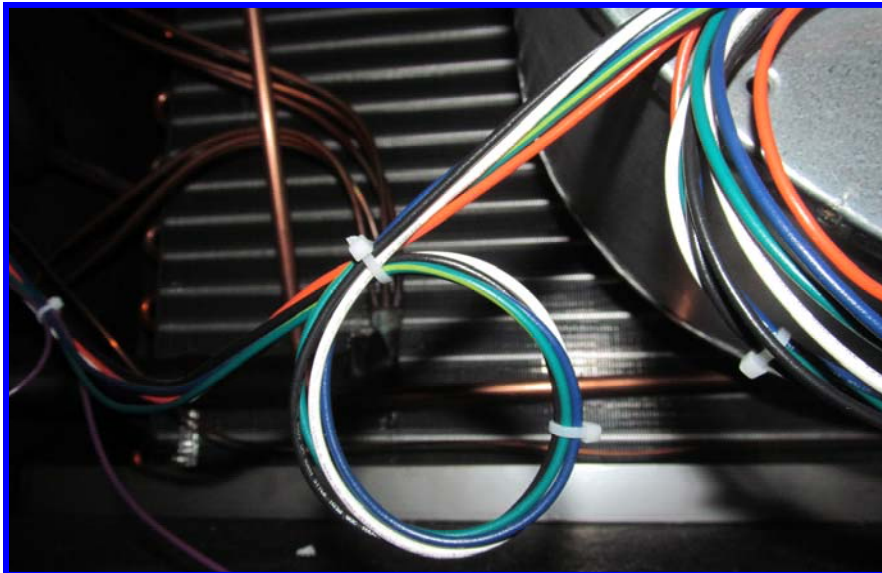
A44 ROOM 38 HP 1 UNIT



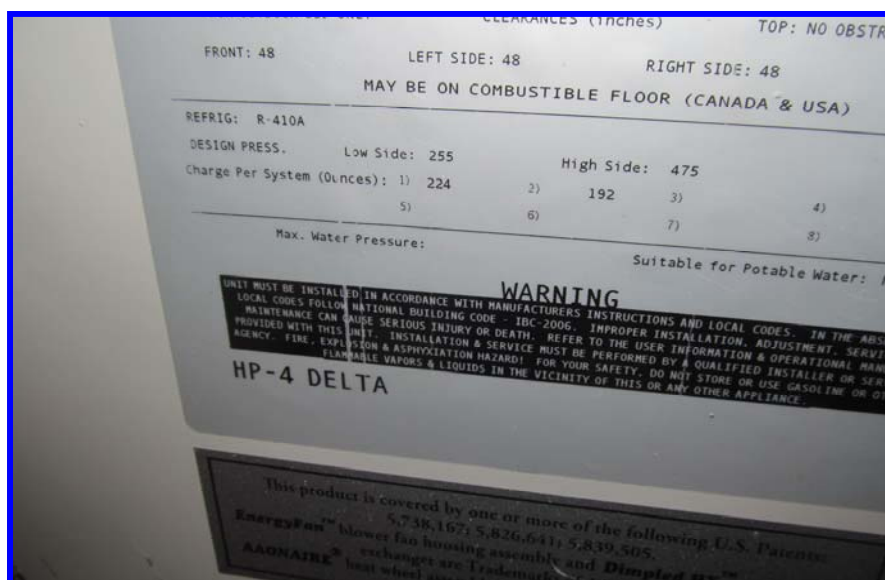
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

A44 ROOM 38 HP 1 UNIT EVAPORATOR COIL & BLOWER



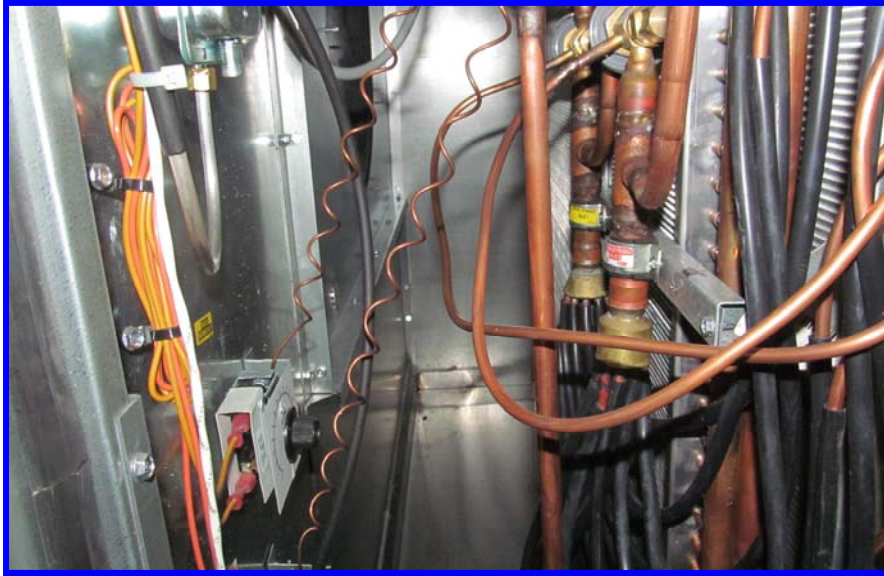
ABOVE STAGE HP 4 UNIT



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

HP 4 CONDENSATE DRAIN PAN & EVAPORATOR COIL



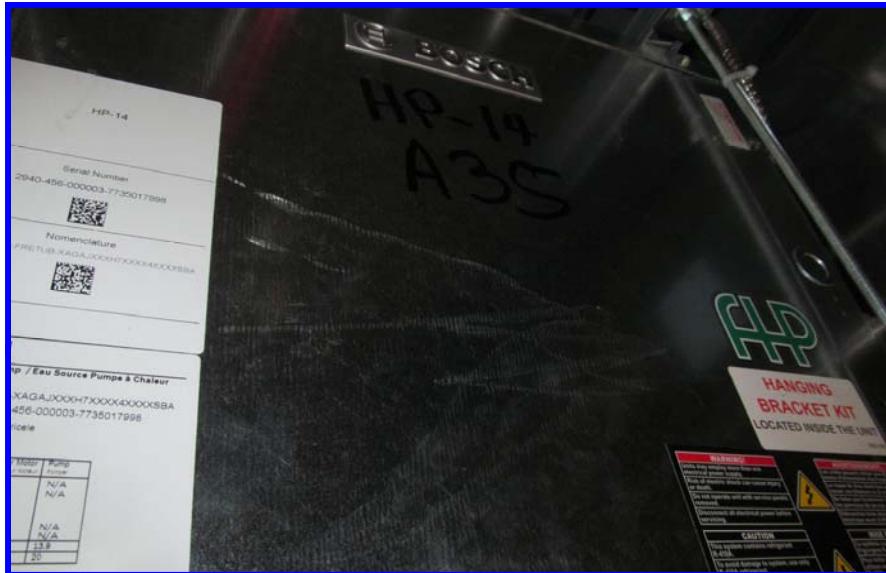
HP 4 RETURN AIR FILTERS



LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

HP 4 ROOM A35 UNIT



HP 4 EVAPORATOR COIL & BLOWER



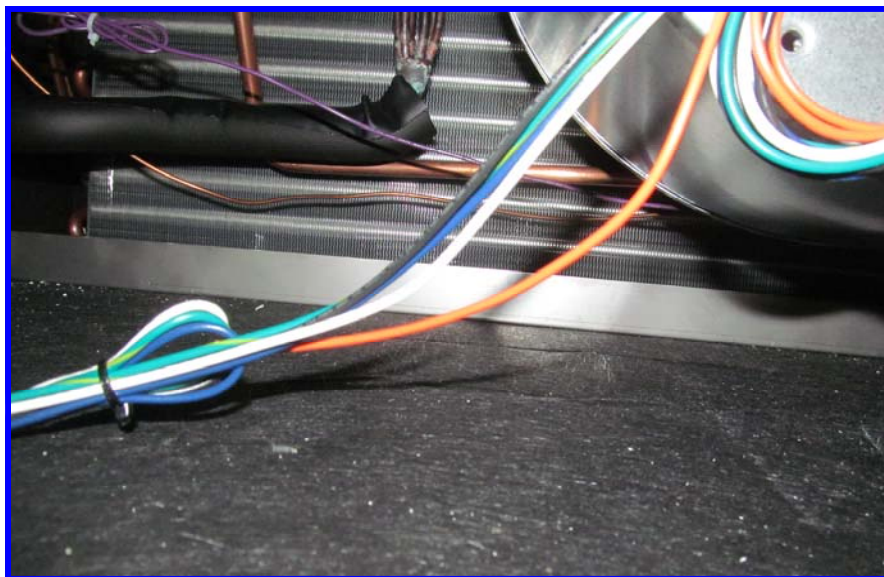
LIMITED MICROBIAL & IAQ SURVEY

DELTA PEACH BOTTOM ELEMENTARY SCHOOL

HP 2 ROOM 42 A34 UNIT



HP2 ROOM 42 A34 EVAPORATOR COIL & BLOWER





QUALITY ASSURANCE PLUS

Purpose: AHU INSPECTION

LOCATION:

DATE:

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DATE	UNIT	LOCATION	COMMENTS
2/13/15	HP3	KITCHEN/CAFE	MANU-AAON; MODEL- RN-025-3-0-E70A-000; LOCATION- ROOF-TOP; OAI-UNIT; BIRDSSCREENS- YES; COND- GOOD; SIGNS OF BIRDS, BEES, BAYS, ETC- NO; FILTRATION- PLEATED; MANU-6-20X25X2 6-25X20X4; COILS-STEAM; COND- GOOD; CONDENSATE PAN- METAL; COND- GOOD; TRAP INSTALLED & FUNCTIONING- YES; AHH INSUL- GOOD; PLENUM- GOOD; SA DUCT- GOOD; INSUL- GOOD; RA DUCT- GOOD; INSUL- GOOD; O/A DUCT- GOOD; INSUL- GOOD
2/13/15	HP-12	HALLWAY	MANU-AAON; MODEL- RA-004-3-V-E709-000; LOCATION- ROOF-TOP; OAI-UNIT; BIRDSSCREENS- YES; COND- GOOD; SIGNS OF BIRDS, BEES, BAYS, ETC- NO; FILTRATION- PLEATED; MANU-2-20X20X2 2-20X20X4; COILS-STEAM; COND- GOOD; CONDENSATE PAN- METAL; COND- GOOD; TRAP INSTALLED & FUNCTIONING- YES; AHH INSUL- GOOD; PLENUM- GOOD; SA DUCT- GOOD; INSUL- GOOD; RA DUCT- GOOD; INSUL- GOOD; O/A DUCT- GOOD; INSUL- GOOD
2/13/15	ERU-10	CLASSROOMS 38, 40 & 42	MANU-AAON; MODEL- RN-013-3-0-E70A-000; ; OAI-UNIT; BIRDSSCREENS- YES; COND- GOOD; SIGNS OF BIRDS, BEES, BAYS, ETC- NO; FILTRATION- PLEATED; MANU-4-20X25X2 4-25X20X4; COILS-STEAM; COND- GOOD; CONDENSATE PAN- METAL; COND- GOOD; TRAP INSTALLED & FUNCTIONING- YES; AHH INSUL- GOOD; PLENUM- GOOD; SA DUCT- GOOD; INSUL- GOOD; RA DUCT- GOOD; INSUL- GOOD; O/A DUCT- GOOD; INSUL- GOOD
2/13/15	ERU 1	CLASSROOMS 24, 22, 23, & 26	MANU-AAON; MODEL- RN-009-3-0-E70A-000; LOCATION- ROOF-TOP; OAI-UNIT; BIRDSSCREENS- YES; COND- GOOD; SIGNS OF BIRDS, BEES, BAYS, ETC- NO; FILTRATION- PLEATED; MANU-4-20X25X2 4-25X20X4; COILS-STEAM; COND- GOOD; CONDENSATE PAN- METAL; COND- GOOD; TRAP INSTALLED & FUNCTIONING- YES; AHH INSUL- GOOD; PLENUM- GOOD; SA DUCT- GOOD; INSUL- GOOD; RA DUCT- GOOD; INSUL- GOOD; O/A
2/13/15	ERU 3	HALLWAY	MANU-AAON; MODEL- RN-011-3-0-E70A-000; LOCATION- ROOF-TOP; OAI-UNIT; BIRDSSCREENS- YES; COND- GOOD; SIGNS OF BIRDS, BEES, BATS, ETC- NO; FILTRATION- PLEATED; MANU-4-20X25X2 4-25X20X4; COILS-STEAM; COND- GOOD; CONDENSATE PAN- METAL; COND- GOOD; TRAP INSTALLED & FUNCTIONING- YES; AHH INSUL- GOOD; PLENUM- GOOD; SA DUCT- GOOD; INSUL- GOOD; RA DUCT- GOOD; INSUL- GOOD; O/A DUCT- GOOD; INSUL- GOOD



QUALITY ASSURANCE PLUS

Purpose: AHU INSPECTION

LOCATION:

DATE:

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DATE	UNIT	LOCATION	COMMENTS
2/13/15	ERU 4	CLASSROOMS 29 & 30	MANU-AAON; MODEL- RN-013-3-0-E70A-000; LOCATION- ROOF-TOP; OAI-UNIT; BIRDScreens- YES; COND- GOOD; SIGNS OF BIRDS, BEES, BAYS, ETC- NO; FILTRATION- PLEATED; MANU-2-20X25X2 2-25X20X4; COILS-STEAM; COND- GOOD; CONDENSATE PAN- METAL; COND- GOOD; TRAP INSTALLED & FUNCTIONING- YES; PLENUM- GOOD; SA DUCT- GOOD; INSUL-GOOD; RA DUCT- GOOD; INSUL- GOOD; O/A DUCT- GOOD; INSUL- GOOD
2/13/15	ERU 5	12-20	MANU-AAON; MODEL- RN-016-3-E70A-000; LOCATION- ROOF-TOP; OAI-UNIT; BIRDScreens- YES; COND- GOOD; SIGNS OF BIRDS, BEES, BAYS, ETC- NO; FILTRATION- PLEATED; MANU-6-20X20X2 6-20X20X4; COILS-STEAM; COND- GOOD; CONDENSATE PAN- METAL; COND- GOOD; TRAP INSTALLED & FUNCTIONING- YES; AHH INSUL- GOOD; PLENUM- GOOD; SA DUCT-GOOD; INSUL- GOOD; RA DUCT- GOOD; INSUL- GOOD; O/A DUCT- GOOD; INSUL- GOOD

REFERENCES

Information and excerpts may be taken from:

- ☒ Guidelines for the Assessment of Bioaerosols in the Indoor Environment, American Conference of Governmental Industrial Hygienists, 1989 (ACGIH)
- ☒ U.S. Environmental Protection Agency (EPA)
- ☒ Occupational Safety and Health Administration (OSHA)
- ☒ American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) Standard 62-1989 and 2001, 55-1992
- ☒ Field Guide for the Determination of Biological Contaminants in Environmental Samples, American Industrial Hygiene Association, 1996 (AIHA)
- ☒ Bioaerosol Assessment and Control, American Conference of Governmental Industrial Hygienists, 1999
- ☒ Guidelines on Assessment and Remediation of Fungi in Indoor Environments, New York City Department of Health, 2000 (NYCDOH)
- ☒ Micromenaces, P & K Microbiology Services, Inc., November 1998, Volume 1, Issue 2
- ☒ National Air Duct Cleaners Association - Assessment, Cleaning, & Restoration of HVAC Systems, ACR 2013 (NADCA)

REPORT CONDITIONS

This report is not to be considered a warranty, but an Limited Fungal & IAQ Survey Closing report on the conditions existing in the areas included in the scope of work at the time of the work only. Conditions only include work performed and reported here. We are not responsible for any errors or omissions due to hidden environmental or mechanical conditions. We are not responsible for any claims more than the amount of the total scope or otherwise noted in contract.