



Via Electronic Mail

November 26, 2019

Angelus Papageorge
Director of Operation
Fairfield Public Schools
501 Kings Highway East,
Fairfield, CT 06825

Re: Indoor Environmental Assessment
Fairfield Ludlowe High School, Fairfield, Connecticut

Dear Mr. Papageorge:

Woodard & Curran performed an indoor environmental assessment at Fairfield Ludlowe High School located at 785 Unquowa Road in Fairfield, Connecticut. The assessment was performed in response to a request to evaluate the general air quality in select locations within the school building and to evaluate the space for the presence of unwanted sources of air contamination. The assessment was performed on the first floor and lower level classrooms including the Orchestra Room, Auto Shop, Wood Shop, Technology rooms, art rooms, locker rooms and physical education offices. The purpose of the assessment was to address staff concerns after some staff members reported to have experienced air quality related symptoms, such as headaches and loss of voice. On November 11, 2019, two Woodard & Curran representatives performed a visual inspection and moisture survey of the areas of concern and collected direct-reading measurements of carbon monoxide, carbon dioxide, volatile organic compounds (VOCs), temperature, relative humidity, and airborne particulate matter.

BACKGROUND

It was reported by Fairfield Public School Operations that staff have experienced general concerns about the indoor air quality of the lower level classrooms. Woodard & Curran conducted this environmental quality assessment to determine if general indoor air quality parameters are satisfactory. Additionally, a visual inspection was conducted to determine if unwanted sources of moisture and/or microbial growth is present.

METHODS

Visual Inspection

Woodard & Curran conducted a visual inspection in select areas of the school to determine if obvious sources of indoor air contaminants or elevated moisture or suspected fungal growth were present. The classrooms, offices, locker rooms and areas above the suspended ceiling tiles were visually inspected. An inspection of the rooftop air handling units that service the areas of concern was also performed.

Moisture Survey

The moisture content of building materials was evaluated using a GE Protimeter Surveymaster® digital moisture meter, which has two operating modes: search and measure. In search mode, the instrument uses a non-invasive radio frequency emission technique to locate moisture and can penetrate most wall and floor coverings, including ceramic tiles, to a depth of approximately ¾ inch. It displays a semi-quantitative result on a scale of colored lights. In measure mode, the instrument uses the electrical conductivity of a porous building material to indicate its level



of free water. Two electrode pins are inserted into the material and the moisture level is displayed on a digital numeric display in units of wood moisture equivalent (WME). WME is the water content that wood would have if it were in contact with the material being tested for sufficient time to reach moisture equilibrium. It is the ratio of the weight of the water in the wood to the dry weight of the wood, expressed as a percentage. Prior to use, the calibration of the instrument was checked using a Protimeter Check calibration device.

Surface Samples for Mold Content Determination

Surface samples were collected by adhering clear tape onto the surfaces where suspect mold growth was observed and affixing the tape to a microscope slide which was sent via overnight mail to EMLab P&K in Marlton, New Jersey. Samples were analyzed at various magnifications under light microscopy to visually estimate the presence of any fungal growth in the sample and subsequently identify any fungal growth that is detected to Genus or relevant group.

Temperature, Relative Humidity, Carbon Monoxide, and Carbon Dioxide

On the day of the survey, temperature and relative humidity direct-readings measurements were collected throughout select areas of the school with a TSI Q-Trak (Model 7575-X) instrument. This instrument uses a thermistor sensor and thin-film capacitive sensor to measure temperature and relative humidity, respectively. Carbon dioxide is detected with a non-dispersive infrared sensor and carbon monoxide is detected by an electrochemical sensor. These sensors are calibrated prior to using the instrument in the field.

Airborne Particulate Matter

A TSI DustTrak DRX Aerosol Monitor (model number 8533) was used to measure particulate concentrations in select locations of the school. This instrument uses laser light scattering photometry to measure distinct concentrations of particulate sizes. This unit was zeroed in the field prior to use.

Volatile Organic Compounds

VOC measurements were made using a calibrated photo ionization detector (PID) ppbRAE + to indicate the levels of total VOCs that have an ionization potential below 10.6 electron volts. This model measures to the parts per billion (ppb) level.

RESULTS

Visual Inspection

The following observations were made:

- The rooftop air handling units (AHUs) were in good condition. Filters were seated tightly in tracks and no standing water or heavy debris was observed. It was reported to Woodard & Curran that the AHUs draw in between 80 to 100 percent fresh outdoor air. The AHUs were operating at the time of the assessment.
- In the Nursery, Room 126A, 1 water stained ceiling tile was observed. Above the ceiling tile a ceiling mounted air conditioning unit was observed. The stain was likely from leaking water from the unit. Photograph 1 in Attachment A documents this condition.
- In the Orchestra room, Room 121, two water stained sections on the gypsum board ceiling were visible. These two areas did not contain elevated moisture.
- In the Resource Center, Room 109, two stained ceiling tiles were observed in the room. On the rear wall, water staining was observed near one of the stained tiles. A pipe located in the suspended ceiling was observed that appeared to have leaked.



- P.E. Storage, Room 103, is used to store gym equipment. This room did not have general exhaust, which could lead to odors lingering in the room.
- Girls Team Locker Room, Room 018, water staining was observed on the exterior wall in the portion that was below grade. Photograph 2 in Attachment A documents this condition.
- In the Graphics Laboratory, Room 015, water staining was observed on the rear wall. Photograph 3 in Attachment A documents this condition.
- In the P.E. Office, Room 019, a steam pipe chase travels under the floor. During the assessment the panel to the chase was opened up in several spots. In this room a whistling could be heard which is likely a steam leak in the pipes in the chase. This room also felt more humid than other areas which could lead to a perception of poor air quality.
- In the Trainer's Room, Room 027, standing water was observed near the ice machine. Water staining was also observed under the sink on the right-side wall. After pulling back the vinyl cove base on the right side and rear wall, water staining and suspect microbial growth was observed. Photograph 4 in Attachment A documents this condition. Surface sampling for mold content determination was performed. Results indicated mold growth at the base of each wall. The analytical laboratory report is included as Attachment C.
- In the Mechanical Tunnel, Room 031B, suspect rodent droppings were observed on the floor. Photograph 5 in Attachment A documents this condition.
- The Fuel Oil Pump Room in the closet in Room 030 Art CAD/Studio had a strong odor of fuel oil.
- In the Wood Shop, Room 024, in the steam pipe chase, saw dust was observed. Photograph 6 in Attachment A documents this condition.
- In the Transportation Technology Room, Room 010, a wet bucket of saw dust and a bucket of water near the parts washer were observed. Photograph 7 in Attachment A documents this condition.
- In the Art Room, Rooms 002, 004, 006 and 008, old art supplies were stored beneath the sinks, including wet brushes.

Moisture Survey

Woodard & Curran conducted a moisture survey in areas noted above on November 11, 2019. The moisture survey was performed in the locations specified above and included ceiling and wallboard materials and carpeting. The moisture survey indicated that the moisture content was less than 15%, indicating dry conditions in each location evaluated.

Direct reading measurements of Temperature and Relative humidity

Indoor temperature levels for occupied areas should be maintained within the thermal comfort envelope suggested by the American Society of Heating Refrigerating and Air Conditioning Engineers (ASHRAE). ASHRAE specifies conditions in which 80% or more of building occupants should find the thermal environment acceptable. ASHRAE suggests temperatures of 68 to 75 degrees Fahrenheit (°F), during winter months, for people in typical seasonal clothing during light sedentary activity. For summer, the temperature should be in the range of 73 to 79 °F.

On the day of the survey, temperature and relative humidity readings throughout the school were made with a direct-reading instrument. The temperature readings in areas intended for occupancy ranged between 61.1 and 71.5°F indicating that the temperature in the areas measured were generally below the guideline of 68 to 75 °F recommended by ASHRAE for thermal comfort for winter months. The building was not occupied at the time of the survey and it would be expected to be warmer when the school is occupied by staff and students.

The indoor relative humidity readings in occupied portions of the building, also measured with the TSI Q-Trak, ranged from 31.2 to 48.4%. All of the of relative humidity readings were within the guideline of less than 65%



recommended by ASHRAE for occupant comfort and for the prevention of microbial growth. It should be noted that these recommended ranges are guidelines and can vary depending on building occupancy, heating system, and seasonal temperature differential.

A summary of the direct-reading measurements for temperature and relative humidity is provided in the Table in Attachment B.

Carbon Monoxide

Common sources of carbon monoxide within indoor environments include internal combustion engines such as motor vehicle and forklift exhaust. Other sources may include tobacco smoke, space heaters, improperly adjusted oil or gas burners and other processes that result in incomplete combustion. The Environmental Protection Agency (EPA) has established a National Ambient Air Quality Standard of 9 ppm for carbon monoxide averaged over an 8-hour period. Typical average concentrations found in a commercial building range from 0 to 6 ppm.

Carbon monoxide readings in select areas of the school were made with a direct-reading instrument. Carbon monoxide readings were all less than the instrument limit of detection of 3 ppm in the occupied interior locations and therefore, were within the EPA's guideline for carbon monoxide.

A summary of the direct-reading measurements for carbon monoxide is provided in the Table in Attachment B.

Carbon Dioxide

Carbon dioxide is a normal constituent of the atmosphere and ranges from about 350 to 500 parts per million (ppm) in outdoor air. The major source of excess carbon dioxide in the indoor environment is human respiration. Other sources can include open-flame heaters, fermentation processes, and motor vehicles. Carbon dioxide itself is not normally a cause of indoor air quality problems but is typically used as an indicator of the adequacy of fresh air ventilation. As the concentration of carbon dioxide increases, so do the background levels of other air contaminants.

Carbon dioxide readings in the areas tested were made with a direct-reading instrument. The interior carbon dioxide concentration for occupied areas was observed to be between 430 and 576 ppm. Interior carbon dioxide levels will fluctuate according to building occupancy.

To minimize air quality complaints, ASHRAE has proposed that the carbon dioxide concentration within an occupied workspace be maintained at or below 700 ppm above ambient exterior (outdoor) levels. For example, on the day of the survey the average outside carbon dioxide level was determined to be 428 ppm. Therefore, ASHRAE would recommend that interior carbon dioxide concentrations be at or below 1,128 ppm. All the carbon dioxide levels measured in occupied areas of the building were found to be within ASHRAE's guideline.

A summary of the direct-reading measurements for carbon dioxide is provided is provided in the Table in Attachment B.

Airborne Particulate

Airborne particulate is a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope and can be irritating to the respiratory system. Various size particles were measured throughout the occupied areas of the building and in the construction areas. The US EPA NAAQS standard for airborne particulate PM-2.5 and PM-10 (airborne particulate matter with size diameters 2.5 and 10 micrometers) is 0.035 mg/m³ and 0.150 mg/m³ respectively, measured over a 24-hour period.



Airborne particulate was measured in select areas of the school. The DustTrak DRX can measure airborne particulate with different size ranges including particles that are 1, 2.5, and 10 micrometers in diameter size as well as respirable sized particulate and total particulate. Particulate concentrations of PM-2.5 ranged from 0.007 to 0.017 mg/m³ and PM-10 from 0.007 to 0.024 mg/m³ indoors. Measurements of PM-2.5 and PM-10 were all below reference levels in the building.

A summary of the direct-reading measurements for airborne particulate is provided in the Table in Attachment B.

Total Volatile Organic Compounds

VOCs comprise a broad category of chemicals that include components of many common office supplies and products such as paints, solvents, mothballs, some janitorial supplies, photocopiers, insecticides, and building materials such as construction adhesives. Although U. S. Occupational Safety and Health Administration (OSHA) permissible exposure limits (PELs) have been established for many of these individual chemicals, concentrations in typical non-industrial indoor air seldom exceed these limits.

VOC measurements were made using a calibrated photo ionization detector (PID) to indicate the levels of total VOCs that have an ionization potential below 10.6 electron volts. The PID is useful for detecting VOCs to a lower limit of 20 ppb calibration gas equivalent. Total VOC levels were all less than the instrument limit of detection of 20 ppb.

A summary of the direct-reading measurements for VOCs is provided in the Table in Attachment B.

RECOMMENDATIONS

Based on industry guidelines and best management practices, it is recommended that the following steps be taken:

- In Nursery, Room 126A, the water stained ceiling tile should be replaced and the air unit should be inspected to assure no leaks or excess condensate can lead to water dripping on ceiling tiles.
- In the Orchestra Room 121, above the gypsum board ceiling should be inspected where water staining was observed to evaluate the source of water infiltration. Until this area can be inspected, it is recommended to paint the ceiling staining with a primer, sealer, stain blocker to remove water staining.
- In the Resource Center, Room 109, the pipe in the ceiling should be repaired to prevent leaks and water stained ceiling tiles should be replaced.
- Clean the exterior wall of the Graphics Lab and continue to monitor this area for water damage.
- Consider installing a general exhaust in the P.E. Storage Room 103 to help expel the odors from the used equipment stored in the closet area.
- Clean the exterior wall of the Girls Team Locker Room and continue to monitor this area for water damage.
- The steam leak in the chase near the P.E. Office, Room 019 should be repaired.
- The suspect rodent droppings should be cleaned from the Mechanical Tunnel, Room 031B. Review the schools rodent control procedures.
- One foot of gypsum board wall should be removed along the rear and right-side walls. Disinfect and clean the area, following removal of building material. The interior of the wall and surrounding area should be inspected prior to reconstruction. Note that the School's Asbestos Hazard Emergency Response Act (AHERA) records should be reviewed prior to disturbing any building materials.
- Evaluate and implement methods to improve exhausting air from the Fuel Oil Pump Room to reduce the fuel odor in that area.
- Clean out the steam chase of all organic matter in The Wood Shop, Room 024.



- Dispose of wet organic matter and standing water in the Transportation Technology Room 010.
- Clean out old supplies from beneath the sinks in the Art Rooms.
- Continue to monitor school areas for water damage and excess moisture in building materials. Continue maintenance program of replacing ceiling tiles if any water damage is observed.

Woodard & Curran appreciates the opportunity to assist you on this project. If you have any questions or require further information, please feel free to email me at whenderson@woodardcurran.com or call me at (781) 251-0489.

Sincerely,

WOODARD & CURRAN INC.

William Henderson, CIH
Project Scientist

Raymond M. Cowan, CIH
Senior Project Manager

Attachment A: Photo Log
Attachment B: Table of Direct Reading Measurements
Attachment C: Laboratory Report Surface Samples



ATTACHMENT A: PHOTO LOG



Photo Number: 1

Location: Nursery, Room 126A

Date: November 11, 2019

Description: Stained Ceiling tile in Nursery



Photo Number: 2

**Location: Girls Team Locker Room, Room
018**

Date: November 11, 2019

Description: Water staining was observed on the exterior wall



Photo Number: 3

**Location: Graphics Laboratory, Room
015**

Date: November 11, 2019

Description: Water staining was observed on the rear wall



Photo Number: 4

Location: Trainer's Room, Room 027

Date: November 11, 2019

Description: Wall Behind Ice Machine, visible mold growth



Photo Number: 5

Location: Mechanical Tunnel, Room
031B

Date: November 11, 2019

Description: Suspect Rodent droppings



Photo Number: 6

Location: Wood Shop, Room 024

Date: November 11, 2019

Description: Saw dust in Steam chase



Photo Number: 7

**Location: Transportation Technology,
Room 010**

Date: November 11, 2019

Description: Container of water near parts cleaner



ATTACHMENT B: TABLE OF TEMPERATURE AND RELATIVE HUMIDITY

Indoor Air Quality Direct-Reading Measurements

Fairfield Ludlowe High School
785 Unquowa Rd, Fairfield, CT 06824
November 11, 2019



Location	Time	CO (ppm)	CO2 (ppm)	VOC (ppb)	Temp (°F)	Relative Humidity (%rh)	Dust Particulate (mg/m³)				
							PM 1	PM 2.5	RESP	PM 10	Total
Outside	1:19p	< 3	428	< 20	61.7	49.5	0.023	0.023	0.023	0.027	0.026
Rm 124, Athletic Director's Office	10:14a	< 3	527	< 20	68.3	31.5	0.007	0.007	0.007	0.008	0.011
Rm 123, Athletic Director's Office	10:21a	< 3	532	< 20	68.5	31.2	0.008	0.008	0.008	0.009	0.012
Rm 126, Preschool	10:30a	< 3	472	< 20	67.7	34.0	0.011	0.011	0.011	0.011	0.011
Rm 121, Orchestra Room	10:39a	< 3	451	< 20	63.6	41.7	0.014	0.014	0.014	0.014	0.014
Rm 109, Resource Room	10:44a	< 3	482	< 20	64.0	40.6	0.012	0.012	0.013	0.013	0.013
Rm 103, Athletic Storage	10:51a	< 3	498	< 20	66.3	34.4	0.008	0.008	0.008	0.008	0.009
Rm 030, Computer Repair	11:03a	< 3	476	< 20	65.8	35.4	0.007	0.007	0.007	0.007	0.007
Rm 031, IT Room	11:08a	< 3	524	< 20	67.5	34.5	0.007	0.007	0.007	0.008	0.010
Rm 031, Classroom	11:12a	< 3	488	< 20	64.1	35.9	0.007	0.007	0.007	0.007	0.007
Rm 031B, Tunnel Access	11:17a	< 3	490	< 20	63.8	38.0	0.007	0.007	0.007	0.007	0.007

Indoor Air Quality Direct-Reading Measurements

Fairfield Ludlowe High School
785 Unquowa Rd, Fairfield, CT 06824
November 11, 2019



Location	Time	CO (ppm)	CO2 (ppm)	VOC (ppb)	Temp (°F)	Relative Humidity (%rh)	Dust Particulate (mg/m³)				
							PM 1	PM 2.5	RESP	PM 10	Total
Rm 027, Athletic Trainer's Room	11:24a	< 3	485	< 20	64.3	41.2	0.017	0.017	0.017	0.019	0.027
Rm 026, Boys Team Room	11:29a	< 3	489	< 20	64.3	39.4	0.011	0.011	0.011	0.011	0.012
Rm 025, Boys Team Room	11:33a	< 3	525	< 20	64.4	42.3	0.011	0.011	0.011	0.011	0.013
Rm 024, Woodshop	11:45a	< 3	459	< 20	60.4	47.7	0.013	0.013	0.013	0.014	0.016
Rm 024B, Dust Collection Room	11:47a	< 3	442	< 20	58.8	47.6	0.014	0.014	0.014	0.014	0.014
Rm 023, Athletic Storage	11:49a	< 3	503	< 20	63.2	45.7	0.011	0.011	0.011	0.014	0.015
Rm 022, Boys Locker Room	11:56a	< 3	445	< 20	66.5	41.3	0.010	0.010	0.011	0.011	0.011
Rm 021, PE Office	11:59a	< 3	576	< 20	69.2	40.6	0.012	0.012	0.012	0.013	0.016
Rm 020, Team Room	12:03p	< 3	494	< 20	69.6	40.9	0.012	0.012	0.012	0.012	0.014
Rm 019, PE Office	12:08p	< 3	477	< 20	71.5	37.4	0.011	0.011	0.011	0.012	0.014
Rm 018, Girls Locker Room	12:12p	< 3	445	< 20	67.8	38.8	0.011	0.011	0.011	0.011	0.011
Rm 017, Girls Team Room	12:15p	< 3	483	< 20	67.3	40.5	0.013	0.013	0.013	0.013	0.015
Rm 002, Art Classroom	12:19p	< 3	429	< 20	65.1	41.2	0.013	0.013	0.013	0.014	0.015
Rm 001, Group Exercise Room	12:23p	< 3	442	< 20	65.4	39.1	0.008	0.008	0.008	0.009	0.009

Indoor Air Quality Direct-Reading Measurements

Fairfield Ludlowe High School
785 Unquowa Rd, Fairfield, CT 06824
November 11, 2019



Location	Time	CO (ppm)	CO2 (ppm)	VOC (ppb)	Temp (°F)	Relative Humidity (%rh)	Dust Particulate (mg/m ³)				
							PM 1	PM 2.5	RESP	PM 10	Total
Rm 005, Dark Room	12:29p	< 3	518	< 20	63.5	45.0	0.013	0.013	0.013	0.013	0.015
Rm 006, Art Classroom	12:32p	< 3	441	< 20	63.3	45.2	0.012	0.012	0.012	0.013	0.013
Rm 003, Mechanical Room (Air Handler)	12:34p	< 3	448	< 20	60.5	45.3	0.017	0.017	0.019	0.024	0.031
Rm 007, Art Classroom	12:40p	< 3	465	< 20	61.5	48.5	0.013	0.013	0.013	0.013	0.013
Rm 007B, Kiln Room	12:42p	< 3	440	< 20	61.1	48.4	0.013	0.013	0.013	0.013	0.013
Rm 008, Art Teacher Office	12:46p	< 3	458	< 20	62.7	46.6	0.011	0.011	0.011	0.012	0.012
Rm 010, Auto Shop	12:49p	< 3	430	< 20	64.3	46.1	0.013	0.014	0.014	0.014	0.014
Rm 010A, Storage Auto Shop	12:53p	< 3	430	< 20	65.4	44.2	0.013	0.013	0.013	0.013	0.013
Foyer, Lower Level	12:57p	< 3	452	< 20	61.2	41.8	0.010	0.010	0.010	0.010	0.010
Rm 015, Design Room	1:00p	< 3	442	< 20	63.4	42.4	0.009	0.009	0.009	0.009	0.013
Rm 015A, Electrical Room	1:03p	< 3	433	< 20	65.2	40.1	0.010	0.010	0.010	0.011	0.016
Stairwell 1	1:07p	< 3	450	< 20	65.2	40.5	0.012	0.012	0.012	0.014	0.014



ATTACHMENT C: LABORATORY REPORT SURFACE SAMPLES

Report for:

Will Henderson
Woodard & Curran
980 Washington Street
Suite 325
Dedham, MA 02026

Regarding: Project: Fairfield High School; Trainer's Room
EML ID: 2296734

Approved by:

Dates of Analysis:
Direct microscopic exam (Qualitative): 11-14-2019



Technical Manager
Ariunaa Jalsrai

Service SOPs: Direct microscopic exam (Qualitative) (EM-MY-S-1039)
AIHA-LAP, LLC accredited service, Lab ID #103005

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received.

Eurofins EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins EMLab P&K's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Client: Woodard & Curran
 C/O: Will Henderson
 Re: Fairfield High School; Trainer's Room

Date of Sampling: 11-11-2019
 Date of Receipt: 11-13-2019
 Date of Report: 11-14-2019

DIRECT MICROSCOPIC EXAMINATION REPORT

Background Debris and/or Description	Miscellaneous Spores Present*	MOLD GROWTH: Molds seen with underlying mycelial and/or sporulating structures†	Other Comments††	General Impression
Lab ID-Version‡: 10923790-1, Analysis Date: 11/14/2019: Tape sample 1A: Gypsum Wall - ICE				
Light	None	4+ <i>Stachybotrys</i> species (spores, hyphae, conidiophores)	None	Mold growth
Lab ID-Version: 10923791-1, Analysis Date: 11/14/2019: Tape sample 2A: Gypsum Wall - Sink				
Light	None	4+ <i>Chaetomium</i> species (ascospores, ascomata, hyphae) 2+ <i>Aspergillus</i> species (spores, hyphae, conidiophores) 1+ <i>Scopulariopsis</i> species (spores, hyphae)	None	Mold growth

* Indicative of normal conditions, i.e. seen on surfaces everywhere. Includes basidiospores (mushroom spores), myxomycetes, plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Distribution of spore types seen mirrors that usually seen outdoors.

† Quantities of molds seen growing are listed in the MOLD GROWTH column and are graded <1+ to 4+, with 4+ denoting the highest numbers.

†† Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
 The limit of detection is < 1+ when mold growth is detected.