Intended for
Kildeer Countryside Community Consolidated School District 96

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1690030209-001

INDOOR ENVIRONMENTAL QUALITY and MOLD ASSESSMENT

Woodlawn Middle School and Country Meadows Elementary School

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ACRONYMS AND ABBREVIATIONS

%:	percent
^{0}F:	Fahrenheit
AHUs:	air handling unit
AIHA:	American Industrial Hygiene Association
ASHRAE:	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
BAS:	Building Automation System
CMU:	concrete masonry unit
CO:	Carbon Monoxide
CO_2:	Carbon Dioxide
EMLAP:	Environmental Microbiology Laboratory Accreditation Program
EPA:	Environmental Protection Agency
IEQ:	Indoor Environmental Quality
lpm:	liters of air per minute
ppm:	parts per million
Ramboll:	Ramboll US Consulting, Inc.
RH:	Relative Humidity
spores/m^3:	spores per cubic meter of air
USEPA:	United States Environmental Protection Agency

INDOOR ENVIRONMENTAL QUAILITY AND MOLD ASSESSMENT
LONG GROVE, ILLINOIS

SUMMARY

An Indoor Environmental Quality (IEQ) and mold assessment was conducted on March 27, April 18, and May 1, 2023, at Woodlawn Middle School and Country Meadows Elementary School. Both schools are in the same building located at 6362 and 6360 Gilmer Road in Long Grove, Illinois. The assessment consisted of room-by-room visual inspection of the building, including inside ventilation systems, measurements for common IEQ parameters, and collection of samples for airborne mold spores.

The visual assessment was performed on March 27, 2023. This was done over spring break to allow for thorough inspection of rooms and ventilation systems without class disruption. IEQ measurements and sampling for airborne mold spores was performed on April 18 and May 1, 2023. These days were selected to evaluate conditions on school days, with normal occupancy and classroom activity. The protocol was repeated on two days to account for potential variability and verify that results are reproducible.

Visual Assessment

The building, and ventilation systems, appeared very clean and well maintained. There were no indications of moisture problems or mold growth to the extent that indoor air quality (IAQ) would be affected. Most walls were concrete masonry unit construction and flooring in corridors and common areas were non-porous surfaces, these building materials generally do not support mold growth. Carpeting, wallboard, ceilings, and other porous materials were found to be clean and in good condition.

There was no apparent water damage inside accessible areas of ventilation systems. Outdoor air intakes were through gables located on the roof and were clean, unobstructed, and away from contaminant sources. Air filters were in place and in good condition. A mechanical contractor was on-site at the time of the inspection. The contractor was performing routine cleaning and maintenance of ventilation systems, which is normally done over spring break.

Small areas of mold growth were observed in two locations. Combined, these areas were less than approximately 3 square feet of mold growth across the two schools. For context, the United States Environmental Protection Agency (USEPA) defines a mold growth of less than 10 square feet in a given area as "small".[1] The two areas are described as follows:

- A few square inches of mold was observed in a cabinet under a science lab sink in room 710. The cabinet was dry, indicating that this was likely caused by a past leak from the sink which had since been repaired.
- There were a couple square feet of mold growth on the drywall ceiling in the Fire Panel Room/Electrical Room. This room is locked and not accessible to students. The ceiling was dry at the time of the assessment. It was reported that this was caused by water damage from a backed-up gutter that had been repaired.

Airborne Mold Samples

Indoor samples were collected on each day of the assessment from 23 rooms, for a total of 46 samples. An additional 8 samples were collected outdoors to allow for comparison between indoor and outdoor mold concentrations and types. Rooms were selected to include at least one location from each ventilation zone.

[1] USEPA Mold Remediation in Schools and Commercial Buildings, document EPA-402-K-01-001, 2008.

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Airborne mold concentrations were lower inside the building than outdoors at all locations and the array of mold types was similar in indoor and outdoor air. Indoor airborne mold spore concentrations ranged from less than 20 to 480 spores per cubic meter of air (spores/m^3) with an average indoor concentration of 126 spores/m^3[2] while outdoor concentrations were between 240 and 4,800 spores/m^3 with an average outdoor concentration of 1,130 spores/m^3. Results were consistent across both days of sampling, demonstrating reproducibility.

These results support the observations made in the visual assessment that mold growth is not a concern in these schools.

IEQ Measurements

IEQ parameters included carbon monoxide (CO), carbon dioxide (CO_2), temperature, and relative humidity (RH).

- CO_2 is a by-product of human respiration and measurements are made to estimate if the amount of outdoor air being brought into classrooms is sufficient for the number of room occupants. In general, CO_2 levels should be less than approximately 700 parts per million (ppm) above outdoors, or 1,150 ppm. Results were within this guideline for all but classrooms 612, 812 and 816. These rooms had concentrations slightly above guidelines. This is not a health risk but indicates that the amount of outdoor air brought in through ventilation systems could be increased.
- CO was not detected in the schools.
- Temperatures ranged from 69 degrees Fahrenheit (^{0}F) to 75^{0}F across both schools. These were within recommended comfort guidelines.
- RH ranged the low 20 percent (%) to mid-30%. RH was typically within the lower range of recommended levels. This is not unusual for the climate in Northern Illinois during the late winter/early spring, when the buildings are being heated. Increasing RH would require supplemental humidification which can result in condensation and microbial growth in buildings and is generally not recommended for this type of school building.

[2] Worse case calculation by assuming results below the limit of quantification were at the limit of quantification (i.e., <20 = 20).

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1. INTRODUCTION

An IEQ and mold assessment was conducted on March 27, April 18, and May 1, 2023, at Woodlawn Middle School and Country Meadows Elementary School. Both schools are in the same building located at 6362 and 6360 Gilmer Road in Long Grove, Illinois. The assessment consisted of room-by-room visual inspection of the building, including inside ventilation systems, measurements for common IEQ parameters, and collection of samples for airborne mold spores.

Project oversight and management was provided by Robert Rottersman, MS, CIH Principal with Ramboll Americas Engineering Solutions, Inc. (Ramboll)[3]. The on-site assessment was completed by Mr. Rottersman and Scott Fountain, Managing Consultant with Ramboll.

The visual assessment was performed on March 27, 2023. This was done over spring break to allow for thorough inspection of rooms and ventilation systems without class disruption. IEQ measurements and sampling for airborne mold spores was performed on April 18 and May 1, 2023. These days were selected to evaluate conditions on school days, with normal occupancy and classroom activity. The protocol was repeated on two days to account for potential variability and verify that results are reproducible.

This report is representative of observations, conditions, test data, and information obtained on the days of the assessment.

Results tables are included in Appendix A, methodology can be found in Appendix B, laboratory reports are included in Appendix C, and certificates of calibration are in Appendix D.

2. RESULTS

Results are presented and discussed below. Laboratory reports are included in Appendix C.

2.1 Visual Assessment

The assessment included a room-by-room inspection of the schools. This included classrooms, offices, cafeteria, gymnasiums, locker rooms, mechanical rooms, storage areas, etc. A limited inspection of the attic areas was also included. The inspection focused on areas that would be most likely to sustain water damage that could result in mold growth such as exterior walls, ceilings, walls with plumbing chases, below sinks, etc.

Observations found the building to be clean, well maintained, and low risk for mold growth or other conditions that could adversely affect air quality in the building.

Small amounts of mold growth were observed in two locations. These were both minor conditions that would not be expected to affect air quality in the building. The identification of only two small areas in a large school building indicated a very well-maintained school. Most schools of this size that Ramboll has inspected contain some areas of mold growth, often more numerous and larger in size than observed in Woodlawn and Country Meadows schools. These areas are described as follows:

- A few square inches of mold was observed in a cabinet under a science lab sink in room 710. The cabinet was dry, indicating that this was likely caused by a past leak from the sink which had since been repaired.

[3] As of September 1, 2023 Ramboll US Consulting, Inc. is now Ramboll Americas Engineering Solutions, Inc.

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- There were a couple square feet of mold growth on the drywall ceiling in the Fire Panel Room/Electrical Room. This room is locked and not accessible to students. The ceiling was dry at the time of the assessment. It was reported that this was caused by water damage from a backed-up gutter that had been repaired.

These were both minor conditions that would not be expected to affect air quality in the building. The identification of only two small areas in a large school building indicated a very well-maintained school.

Photo 1 - Below a sink in room 710, during the assessment.

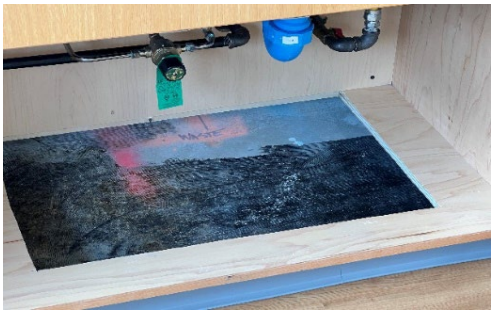

Photo 2 - Below sink in room 710, after repair and cleaning

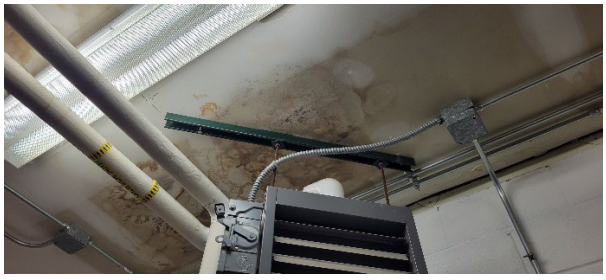

Photo 3 - Water damaged ceiling in the Fire Panel/Electrical room during the assessment.

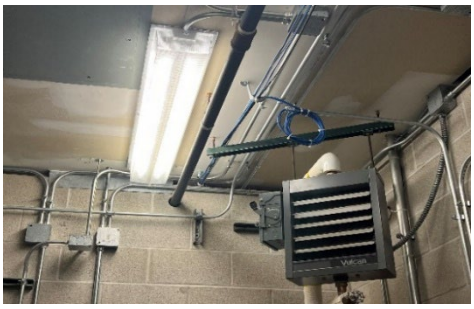

Photo 4 - Damaged ceiling in the Fire Panel/Electrical room removed and replaced.

Ramboll notified the school's facility maintenance staff and affected materials in both areas were removed and surrounding surfaces were cleaned.

Most interior and exterior walls of the schools were concrete masonry unit (CMU) construction. This inorganic building material will not typically support mold growth. Drywall was used in some locations as interior partition walls. Inspection of drywall walls did not identify signs of water damage or mold growth.

In most of the school the ceiling consisted of lay-in tiles in a grid. The ceiling tiles were found to be clean and in good condition. There were a few locations with small water stains on ceiling tiles, mold was not apparent. These tiles were reportedly replaced at the time of the assessment.

Floor surfaces appeared relatively new, clean and in good condition. Floors in corridors and common areas were non-porous surfaces which would not be expected to support mold growth. Carpeting in classrooms and offices appeared clean with no obvious signs of water damage.

Representative areas of the attic were inspected and found to be clean with no obvious evidence of water damage including leaks or condensation.

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2.2 Ventilation Systems

Ventilation to the building is provided by ten (10) air handling units (AHUs) located in mechanical penthouses throughout the schools. It was reported that preventative maintenance, including filter changes, are performed over winter, spring, and summer breaks by third party mechanical contractor. The contractor was on-site at the time of Ramboll's inspection and were observed changing filters, performing maintenance, and performed spot cleaning of dust accumulations in the systems. The ventilation system is controlled by a Building Automation System (BAS).

Ramboll inspected accessible components of the ventilation systems most likely to affect indoor air quality or support mold growth. These included outdoor air intakes, filters, cooling coils, condensate drain pans, internal insulation, etc.

The AHUs were found to be in good condition with no apparent evidence of moisture damage or mold growth. Air filters were new and fit securely in their frames.

Outdoor air intakes were located on roof gables and appeared clean and unobstructed. The position of the intakes, on the roof, were away from contaminant sources and therefore are less likely to have accumulation of organic debris, such as leaves and grass clippings, as compared to ground level intakes that are common in many other school buildings.

2.3 Airborne Mold Sampling

A summary of airborne mold spore results and the respective sample locations is presented in Table I in Appendix A. Laboratory reports are included in Appendix C.

Mold is ubiquitous in the outdoor environment and produces spores as part of its reproductive cycle; these spores are commonly found airborne in both outdoor and indoor air. Due to ventilation system filtration and the fact that indoor conditions in general do not support mold growth, indoor mold spore counts are typically lower than outdoor counts. However, if sufficient moisture is present, mold can proliferate within a building as the nutrients for its growth are readily available. Currently levels of mold spores are not covered by any regulatory standard. Interpretation of results is typically done by comparing indoor to outdoor concentrations and distribution of mold types as well as comparing indoor locations to each other.

Indoor samples were collected on each day of the assessment from 23 rooms, for a total of 46 samples. An additional 8 samples were collected outdoors, four on each day of testing, to allow for comparison between indoor and outdoor mold concentrations and types. Rooms were selected to include at least one location from each ventilation zone.

Airborne mold concentrations were lower inside the building than outdoors at all locations and the array of mold types was similar in indoor and outdoor air. Indoor airborne mold spore concentrations ranged from less than 20 to 480 spores/m^3 with an average indoor concentration of 126 spores/m^3[4] while outdoor concentrations were between 240 and 4,800 spores/m^3 with an average outdoor concentration of 1,130 spores/m^3. These results support the observations made in the visual assessment that mold growth is not a concern in these schools.

2.4 Air Quality Measurements

A summary of air quality measurements and the respective sample locations are presented in Table II in Appendix A.

2.4.1 Temperature & Relative Humidity (RH)

Temperature and RH are physical conditions which can affect perceptions of indoor air quality by affecting human comfort. Temperature and RH measurements were measured throughout the school on April 18 and May 1, 2023.

[4] Worse case calculation by assuming results below the limit of quantification were at the limit of quantification (i.e., <20 = 20).

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Temperatures ranged from 69 ^{0}F to 75^{0}F across both schools. These were within recommended comfort guidelines set by the American Society of Heating, Refrigeration, and Air Conditioning (ASHRAE).

RH ranged the low 20% to mid-30%. RH was typically within the lower range of recommended levels. This is not unusual for the climate in Northern Illinois during the late winter/early spring, when the buildings are being heated. Increasing RH would require supplemental humidification which can result in condensation and microbial growth in buildings and is generally not recommended for this type of school building.

2.4.2 Carbon Dioxide (CO_2)

CO_2 is an odorless, nontoxic gas present in the outdoor air in concentrations usually ranging from 300 to 500 ppm. The primary source of CO_2 in the indoor environment is human respiration. CO_2 concentrations in the indoor air are usually diluted by the introduction of outside air through the ventilation system. During this survey, CO_2 concentrations were measured to estimate if the amount of outside air entering the rooms was sufficient for the population.

Measurements for CO_2 were taken outdoors for comparison to the recommended guideline of maintaining indoor levels within 700 ppm of outdoor levels. CO_2 outdoors measured around 436-473 ppm; therefore 1,150 ppm is used as a guideline.

Results are included in Table II in Appendix A. Results were within this guideline for all but classrooms 612, 812, and 816. These rooms had concentrations slightly above the recommended guidelines. This is not a health risk but indicates that the amount of outdoor air brought in through ventilation systems could be increased.

2.4.3 Carbon Monoxide (CO)

CO is an odorless gas and a chemical asphyxiant produced as a result of incomplete combustion. Exhausts from gas powered vehicles and/or malfunctioning gas or oil-fired heaters are common sources of CO in indoor environments.

CO was not detected inside the school or outdoors.

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3. CONCLUSIONS AND RECOMMENDATIONS

IEQ in Woodlawn Middle School and Country Meadows Elementary School was found to be very good. Building materials, surfaces and ventilation systems were in good condition and well maintained. The number, and extent, of findings identified for follow-up action were much less than Ramboll typically encounters when performing similar assessments in other school buildings.

The following recommendations are offered for consideration. They are intended to promote good environmental quality within the facility. Implementation of these recommendations is not required by any regulatory agency but would be considered good practice. They should not be construed as the only options available or inclusive of all potential environmental quality parameters within the facility.

Recommendations are as follows:

- Remove mold contaminated material from the cabinet under the sink in Classroom 710 and the ceiling in the Fire Panel/Electrical Room. Both areas should be addressed following the Environmental Protection Agency (EPA) guidelines for "small" areas, less than 10 square feet of affected material. These repairs have been completed.
- Consider adjusting the outdoor air dampers to increase the amount of outdoor air brought in through the ventilation systems when classrooms are at full occupancy.

Results of this survey are based on conditions present on the days of the assessment.

Please contact our office if you have any questions regarding the above report. Ramboll thanks you for the opportunity to be of service.

Sincerely,

Ramboll Americas Engineering Solutions, Inc.

Robert B. Rottersman, MS, CIH
Principal
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APPENDIX A
DATA TABLES

Table I
Airborne Mold Spore Trap Sample Results
Woodlawn Middle School and Country Meadows Elementary School
Long Grove, Illinois
April 18 & May 1, 2023

Location	Date	Sample ID	Concentration (spores/m^3)
Outdoors – Woodlawn Main Entrance	4/18/2023	041423-01	640
	5/1/2023	050123-01	240
Outdoors – 100 Wing	4/18/2023	041423-27	4,800
	5/1/2023	050123-27	480
Outdoors – 800 Wing	4/18/2023	041423-11	440
	5/1/2023	050123-09	1,400
Outdoors – 200 Wing	4/18/2023	041423-22	240
	5/1/2023	050123-22	800
Classroom 600	4/18/2023	041423-02	160
	5/1/2023	050123-10	160
Classroom 612	4/18/2023	041423-03	100
	5/1/2023	050123-11	240
Classroom 708	4/18/2023	041423-04	20
	5/1/2023	050123-02	<20
Classroom 714	4/18/2023	041423-05	80
	5/1/2023	050123-03	<20
Classroom 804	4/18/2023	041423-06	20
	5/1/2023	050123-04	80
Classroom 814	4/18/2023	041423-07	80
	5/1/2023	050123-06	<20
Classroom 818	4/18/2023	041423-08	20
	5/1/2023	050123-05	80
Classroom 816	4/18/2023	041423-09	100
	5/1/2023	050123-07	120
Classroom 812	4/18/2023	041423-10	160
	5/1/2023	050123-08	<20
Learning Center 511	4/18/2023	041423-12	20
	5/1/2023	050123-12	<20
Classroom 504	4/18/2023	041423-13	20
	5/1/2023	050123-13	260
Woodlawn Cafeteria	4/18/2023	041423-14	<20
	5/1/2023	050123-14	720
Band room 402	4/18/2023	041423-15	<20
	5/1/2023	050123-15	160
Woodlawn Gymnasium	4/18/2023	041423-16	40
	5/1/2023	050123-16	<20
Woodlawn Competition Gymnasium	4/18/2023	041423-17	40
	5/1/2023	050123-17	480
Elementary Gymnasium (south)	4/18/2023	041423-18	40
	5/1/2023	050123-18	80

*spores/m^3 = spores per cubic meter of air

Table II
CO_2, CO, Temperature, and Relative Humidity
Woodlawn Middle School and Country Meadows Elementary School
Long Grove, Illinois
April 18 & May 1, 2023

Location	Date	Time	CO_2 (ppm)	Temp (°F)	Relative Humidity (%)	CO (ppm)
Outdoors – Woodlawn Main Entrance	4/18/2023	0840	456	42	53.1	0.0
	5/1/2023	0840	450	42	70.2	0.0
Outdoors – 800 Wing	4/18/2023	1000	470	45	34.9	0.0
	5/1/2023	1050	436	48	64.5	0.0
Outdoors – 200 Wing	4/18/2023	1146	447	48	39.7	0.0
	5/1/2023	1236	444	50	58.4	0.0
Outdoors – 100 Wing	4/18/2023	1240	473	53	31.9	0.0
	5/1/2023	1400	445	48	61.0	0.0
Classroom 600	4/18/2023	0848	802	69	30.0	0.0
	5/1/2023	1059	1,017	69	37.0	0.0
Classroom 612	4/18/2023	0856	1,070	72	27.9	0.0
	5/1/2023	1106	1,280	71	35.7	0.0
Classroom 708	4/18/2023	0903	980	74	24.7	0.0
	5/1/2023	0957	612	75	28.3	0.0
Classroom 714	4/18/2023	0911	692	74	21.0	0.0
	5/1/2023	1005	520	73	28.1	0.0
Classroom 804	4/18/2023	0920	771	74	21.3	0.0
	5/1/2023	1014	761	73	29.4	0.0
Classroom 814	4/18/2023	0928	760	74	21.1	0.0
	5/1/2023	1028	785	71	31.8	0.0
Classroom 818	4/18/2023	0936	766	75	20.0	0.0
	5/1/2023	1021	889	71	32.1	0.0
Classroom 816	4/18/2023	0944	1,518	74	25.6	0.0
	5/1/2023	1036	1,265	71	35.9	0.0
Classroom 812	4/18/2023	0951	930	74	23.1	0.0
	5/1/2023	1043	1,282	73	33.4	0.0
Learning Center 511	4/18/2023	1010	601	71	23.5	0.0
	5/1/2023	1114	639	72	30.5	0.0
Classroom 504	4/18/2023	1026	790	71	24.3	0.0
	5/1/2023	1122	848	72	32.4	0.0
Woodlawn Cafeteria	4/18/2023	1035	767	72	23.2	0.0
	5/1/2023	1129	847	72	32.9	0.0
Band room 402	4/18/2023	1043	604	73	22.3	0.0
	5/1/2023	1137	816	72	32.0	0.0
Woodlawn Gymnasium	4/18/2023	1052	760	72	24.4	0.0
	5/1/2023	1145	752	71	32.9	0.0
Woodlawn Competition Gymnasium	4/18/2023	1100	797	73	24.3	0.0
	5/1/2023	1152	852	71	34.1	0.0
Elementary Gymnasium (south)	4/18/2023	1111	1,080	72	27.6	0.0
	5/1/2023	1158	975	71	34.5	0.0
Elementary Gymnasium (north)	4/18/2023	1118	1,130	72	28.0	0.0
	5/1/2023	1205	991	71	33.8	0.0
General Music 300	4/18/2023	1128	1,080	72	28.8	0.0
	5/1/2023	1212	1,105	71	36.2	0.0
Learning Center 319	4/18/2023	1137	607	73	21.5	0.0
	5/1/2023	1219	584	73	29.8	0.0
Classroom 210	4/18/2023	1155	641	71	24.7	0.0
	5/1/2023	1244	623	70	33.3	0.0
Classroom 220	4/18/2023	1203	698	73	23.7	0.0
	5/1/2023	1250	733	70	33.0	0.0
Classroom 102	4/18/2023	1214	807	75	23.0	0.0
	5/1/2023	1257	895	73	30.5	0.0
Classroom 110	4/18/2023	1222	683	73	22.5	0.0
	5/1/2023	1303	873	74	32.1	0.0

APPENDIX B
METHODOLOGY, STANDARDS, & GUIDELINES

METHODOLOGY

The survey included a visual inspection of each room in both schools, as well as measurements of comfort parameters including temperature, RH, CO, and CO_2 in both areas. The collection of air samples for potential mold contamination was used as a tool to assess the potential for hidden indoor mold growth.

Airborne Mold Sampling
Tests for airborne mold spores were performed to supplement the visual inspection component of the assessment. Currently, there are no reputable established standards or recommendations for acceptable levels of airborne mold spores. In lieu of any established guidelines, results are typically compared to outdoor concentrations. Results with abnormal levels (e.g., higher concentrations inside the building vs. outside) or distribution of mold types that are different than those observed outside the building may indicate the possibility of a concealed indoor growth source and the need for a more detailed inspection of the area to identify the source. When mold is not visually apparent and there is no evidence of water intrusion (such as water stains, bubbling paint, efflorescence, etc.) sample results with normal concentrations and species distribution can provide additional confidence that mold growth is not a concern in the test areas.

Mold sampling was conducted using a Burkard air sampling device, which is a slit, spore trap, impactor. The Burkard uses a pre-greased microscope slide that is inserted into the Burkard and turned on for a pre-determined period of time (typically between 3 and 7 minutes) at a flow rate of 10 liters of air per minute (lpm). The slides are removed, placed in a plastic holding case, and sent to the laboratory for analysis. Samples were analyzed by light microscopy to provide a count and classification for fungal components trapped on the slide.

Sample analysis was performed via light microscopy by Eurofins EMLab in Marlton, NJ which is accredited by the American Industrial Hygiene Association (AIHA) through the Environmental Microbiology Laboratory Accreditation Program (EMLAP).

Carbon Dioxide (CO_2)
CO_2 is a by-product of human respiration (exhaled air). Measurements of CO_2 concentrations within a building are often used as a surrogate for determining the adequacy of outside air ventilation provided to the space. Measurements for CO_2 were taken at the same times and locations as the airborne mold spore samples were taken. All measurements were made with a TSI Q-Trak. Model 8551.

Temperature & Relative Humidity
Temperature and RH are comfort parameters which are important to the perception of air quality. Temperature and RH readings were obtained at the same locations and times as CO_2 measurements as described above. All measurements were made with a TSI Q-Trak, Model 8551.

Carbon Monoxide (CO)
CO is a contaminant gas which may enter an indoor environment from vehicle exhaust gas infiltration, cracked furnace heat exchangers, cross contamination from exhaust stacks, etc. Excess exposure can cause nausea, shortness of breath, and headaches. Tests for CO were conducted at the same locations and times as the occupant comfort parameters using the TSI Q-Trak, Model 8551.

APPENDIX C
LABORATORY REPORTS AND CHAIN OF CUSTODY

eurofins | Built Environment Testing

Report for:

Mr. Scott Fountain
Ramboll US Corporation: Illinois
333 W. Wacker Drive, Suite 2700
Chicago, IL 60606

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: 16900; Spore Trap
EML ID: 3235496

Approved by:

Technical Manager
Ariunaa Jalsrai

Dates of Analysis:
Spore trap analysis: 04-20-2023 and 04-21-2023

Service SOPs: Spore trap analysis (EM-MY-S-1038)
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 and tested. Information supplied by the client which can affect the validity of results: sample air volume.

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Eurofins EPK Built Environment Testing, LLC'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.

Eurofins EPK Built Environment Testing, LLC
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 www.eurofinsus.com/Built

Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-01: outdoors - woodland - main entrance			041823-02: Classroom 600		
Comments (see below)	None			None		
Lab ID-Version‡:	15677030-1			15677031-1		
Analysis Date:	04/20/2023			04/20/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores	1	25	80			
Basidiospores	2	25	160			
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium	1	25	80	1	25	80
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†	4	25	320	1	25	80
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	20			< 20		
Pollen/m3	20			< 20		
Skin cells (1-4+)	< 1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			640			160

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
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§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-03: Classroom 612			041823-04: Classroom 708		
Comments (see below)	None			None		
Lab ID-Version‡:	15677032-1			15677033-1		
Analysis Date:	04/20/2023			04/20/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	1	25	80			
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum	1	100	20			
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes				1	100	20
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			1+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	2+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			100			20

Comments:

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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-05: Classroom 714			041823-06: Classroom 804		
Comments (see below)	None			None		
Lab ID-Version‡:	15677034-1			15677035-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores						
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium	1	25	80			
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown				1	100	20
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			80			20

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-07: Classroom 814			041823-08: Classroom 818		
Comments (see below)	None			None		
Lab ID-Version‡:	15677036-1			15677037-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	1	25	80			
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes				1	100	20
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			2+		
Hyphal fragments/m3	< 20			20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			2+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			80			20

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-09: Classroom 816			041823-10: Classroom 812		
Comments (see below)	None			None		
Lab ID-Version‡:	15677038-1			15677039-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores				1	25	80
Basidiospores				1	25	80
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†	1	25	80			
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes	1	100	20			
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			1+		
Hyphal fragments/m3	< 20			20		
Pollen/m3	< 20			20		
Skin cells (1-4+)	2+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			100			160

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-11: Outdoors - 800 Wing			041823-12: Learning Center 511		
Comments (see below)	None			None		
Lab ID-Version‡:	15677040-1			15677041-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores	2	25	160			
Basidiospores	3	25	240			
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces	1	100	20			
Rusts						
Smuts, Periconia, Myxomycetes	1	100	20	1	100	20
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	20			< 20		
Pollen/m3	20			< 20		
Skin cells (1-4+)	< 1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			440			20

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-13: Classroom 504			041823-14: Middle school cafeteria		
Comments (see below)	None			A		
Lab ID-Version‡:	15677042-1			15677043-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores						
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum	1	100	20			
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			20			< 20

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-15: Band room 402			041823-16: Middle School Gym		
Comments (see below)	A			None		
Lab ID-Version‡:	15677044-1			15677045-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores						
Bipolaris/Drechslera group				1	100	20
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum				1	100	20
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			2+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			< 20			40

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-17: Middle School Competition Grym			041823-18: Elementary School Gym (south)		
Comments (see below)	None			None		
Lab ID-Version‡:	15677046-1			15677047-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores						
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum	1	100	20			
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces				1	100	20
Rusts						
Smuts, Periconia, Myxomycetes	1	100	20	1	100	20
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			2+		
Hyphal fragments/m3	< 20			20		
Pollen/m3	< 20			20		
Skin cells (1-4+)	2+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			40			40

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-19: Elementary School Gym (north)			041823-20: General Music 300		
Comments (see below)	None			None		
Lab ID-Version‡:	15677048-1			15677049-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores				1	25	80
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium	1	25	80			
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown				1	100	20
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			2+		
Hyphal fragments/m3	< 20			20		
Pollen/m3	< 20			20		
Skin cells (1-4+)	3+			2+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			80			100

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ 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".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Eurofins EPK Built Environment Testing, LLC
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 www.eurofinsus.com/Built

Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-21: Learning Center 319			041823-22: Outdoors - 200 Wing		
Comments (see below)	None			None		
Lab ID-Version‡:	15677050-1			15677051-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores				2	25	160
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium				1	25	80
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes	1	100	20			
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	< 20			20		
Pollen/m3	< 20			20		
Skin cells (1-4+)	1+			< 1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			20			240

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
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§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-23: Classroom 210			041823-24: Classroom 220		
Comments (see below)	A			None		
Lab ID-Version‡:	15677052-1			15677053-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores						
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes				1	100	20
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			< 20			20

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

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§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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C/O: Mr. Scott Fountain
Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-25: Classroom 102			041823-26: Classroom 110		
Comments (see below)	None			A		
Lab ID-Version‡:	15677054-1			15677055-1		
Analysis Date:	04/21/2023			04/21/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores						
Bipolaris/Drechslera group						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum	1	100	20			
Fusarium						
Myrothecium						
Nigrospora						
Other brown						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			1+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			20			< 20

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ 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".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	041823-27: Outdoors - 100 Wing		
Comments (see below)	None		
Lab ID-Version‡:	15677056-1		
Analysis Date:	04/21/2023		
	raw ct.	% read	spores/m3
Ascospores	3	25	240
Basidiospores	5	25	400
Bipolaris/Drechslera group			
Chaetomium			
Cladosporium	51	25	4,100
Curvularia			
Epicoccum	1	100	20
Fusarium			
Myrothecium			
Nigrospora			
Other brown			
Other colorless			
Penicillium/Aspergillus types†			
Pithomyces			
Rusts			
Smuts, Periconia, Myxomycetes	1	100	20
Stachybotrys			
Stemphylium			
Torula			
Ulocladium			
Zygomycetes			
Background debris (1-4+)††	1+		
Hyphal fragments/m3	40		
Pollen/m3	40		
Skin cells (1-4+)	< 1+		
Sample volume (liters)	50		
§ TOTAL SPORES/m3			4,800

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ 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".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

MoldRANGE™, Local Climate; Extended Outdoor Comparison

Outdoor Location: 041823-01, outdoors - woodland - main entrance

Fungi Identified	Outdoor data	Typical Outdoor Data for: April in Central† EMLab Regional Climate code¹ A Annual Temp, B Elev., B Rain, A Temp. Range (n‡=605)						Typical Outdoor Data for: The entire year in Central† EMLab Regional Climate code¹ A Annual Temp, B Elev., B Rain, A Temp. Range (n‡=8577)					
Project zip code 60606	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	13	27	53	22	13	13	53	160	280	52
Bipolaris/Drechslera group	-	-	-	-	-	-	2	7	7	13	27	40	7
Chaetomium	-	-	-	-	-	-	3	7	7	13	20	40	4
Cladosporium	80	53	53	210	640	1,200	73	53	110	590	2,200	4,100	85
Curvularia	-	-	-	-	-	-	1	7	7	13	40	53	10
Epicoccum	-	7	13	13	40	53	18	7	13	27	80	150	39
Nigrospora	-	7	7	7	13	53	3	7	13	13	53	93	19
Other brown	-	7	7	13	40	53	10	7	7	13	29	53	11
Penicillium/Aspergillus types	320	27	53	110	270	440	35	53	53	130	400	670	40
Pithomyces	-	-	-	-	-	-	1	7	13	27	57	110	23
Stachybotrys	-	-	-	-	-	-	< 1	7	11	13	59	110	1
Torula	-	-	-	-	-	-	1	7	7	13	46	67	6
Seldom found growing indoors**													
Ascospores	80	53	53	160	510	960	62	53	110	430	1,500	2,800	75
Basidiospores	160	53	53	210	800	1,500	80	53	160	910	3,700	6,700	88
Rusts	-	-	-	-	-	-	3	8	13	27	93	170	28
Smuts, Periconia, Myxomycetes	-	7	13	20	40	67	22	13	13	40	120	210	50
§ TOTAL SPORES/m3	640												

¹EMLab Regional Climate codes are a climate classification scheme for regional geographic areas containing multiple states. The MoldRANGE™ Local Climate report uses the sampling location zip code to identify the EMLab Regional Climate code in that area. Using information available from the NOAA weather database, the EMLab Regional Climate code sharpens the precision of the MoldRANGE™reporting system, providing more reliable estimates of the range and average concentrations of the different airborne fungal spore types for each region. Additional information on the EMLab Regional Climate code system can be found on the last page of this report.

†The Typical Outdoor Data represents the typical outdoor spore levels across the region's group of states for the time period and EMLab Regional Climate code indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically and if not enough data is available to make a statistically meaningful assessment, it is indicated with a dash.

‡ n is the sample size used to calculate the MoldRANGE™ Local Climate data summarized in the table.

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

U.S. Patent No. 10,387,458

Eurofins EPK Built Environment Testing, LLC
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(866) 871-1984 www.eurofinsus.com/Built

Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

MoldRANGE™, Local Climate; Extended Outdoor Comparison

Outdoor Location: 041823-11, Outdoors - 800 Wing

Fungi Identified	Outdoor data	Typical Outdoor Data for: April in Central† EMLab Regional Climate code¹ A Annual Temp, B Elev., B Rain, A Temp. Range (n‡=605)						Typical Outdoor Data for: The entire year in Central† EMLab Regional Climate code¹ A Annual Temp, B Elev., B Rain, A Temp. Range (n‡=8577)					
Project zip code 60606	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	13	27	53	22	13	13	53	160	280	52
Bipolaris/Drechslera group	-	-	-	-	-	-	2	7	7	13	27	40	7
Chaetomium	-	-	-	-	-	-	3	7	7	13	20	40	4
Cladosporium	-	53	53	210	640	1,200	73	53	110	590	2,200	4,100	85
Curvularia	-	-	-	-	-	-	1	7	7	13	40	53	10
Epicoccum	-	7	13	13	40	53	18	7	13	27	80	150	39
Nigrospora	-	7	7	7	13	53	3	7	13	13	53	93	19
Other brown	-	7	7	13	40	53	10	7	7	13	29	53	11
Penicillium/Aspergillus types	-	27	53	110	270	440	35	53	53	130	400	670	40
Pithomyces	20	-	-	-	-	-	1	7	13	27	57	110	23
Stachybotrys	-	-	-	-	-	-	< 1	7	11	13	59	110	1
Torula	-	-	-	-	-	-	1	7	7	13	46	67	6
Seldom found growing indoors**													
Ascospores	160	53	53	160	510	960	62	53	110	430	1,500	2,800	75
Basidiospores	240	53	53	210	800	1,500	80	53	160	910	3,700	6,700	88
Rusts	-	-	-	-	-	-	3	8	13	27	93	170	28
Smuts, Periconia, Myxomycetes	20	7	13	20	40	67	22	13	13	40	120	210	50
§ TOTAL SPORES/m3	440												

¹EMLab Regional Climate codes are a climate classification scheme for regional geographic areas containing multiple states. The MoldRANGE™ Local Climate report uses the sampling location zip code to identify the EMLab Regional Climate code in that area. Using information available from the NOAA weather database, the EMLab Regional Climate code sharpens the precision of the MoldRANGE™reporting system, providing more reliable estimates of the range and average concentrations of the different airborne fungal spore types for each region. Additional information on the EMLab Regional Climate code system can be found on the last page of this report.

†The Typical Outdoor Data represents the typical outdoor spore levels across the region's group of states for the time period and EMLab Regional Climate code indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically and if not enough data is available to make a statistically meaningful assessment, it is indicated with a dash.

‡ n is the sample size used to calculate the MoldRANGE™ Local Climate data summarized in the table.

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

U.S. Patent No. 10,387,458

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Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

MoldRANGE™, Local Climate; Extended Outdoor Comparison

Outdoor Location: 041823-22, Outdoors - 200 Wing

Fungi Identified	Outdoor data	Typical Outdoor Data for: April in Central† EMLab Regional Climate code¹ A Annual Temp, B Elev., B Rain, A Temp. Range (n‡=605)						Typical Outdoor Data for: The entire year in Central† EMLab Regional Climate code¹ A Annual Temp, B Elev., B Rain, A Temp. Range (n‡=8577)					
Project zip code 60606	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	13	27	53	22	13	13	53	160	280	52
Bipolaris/Drechslera group	-	-	-	-	-	-	2	7	7	13	27	40	7
Chaetomium	-	-	-	-	-	-	3	7	7	13	20	40	4
Cladosporium	80	53	53	210	640	1,200	73	53	110	590	2,200	4,100	85
Curvularia	-	-	-	-	-	-	1	7	7	13	40	53	10
Epicoccum	-	7	13	13	40	53	18	7	13	27	80	150	39
Nigrospora	-	7	7	7	13	53	3	7	13	13	53	93	19
Other brown	-	7	7	13	40	53	10	7	7	13	29	53	11
Penicillium/Aspergillus types	-	27	53	110	270	440	35	53	53	130	400	670	40
Pithomyces	-	-	-	-	-	-	1	7	13	27	57	110	23
Stachybotrys	-	-	-	-	-	-	< 1	7	11	13	59	110	1
Torula	-	-	-	-	-	-	1	7	7	13	46	67	6
Seldom found growing indoors**													
Ascospores	-	53	53	160	510	960	62	53	110	430	1,500	2,800	75
Basidiospores	160	53	53	210	800	1,500	80	53	160	910	3,700	6,700	88
Rusts	-	-	-	-	-	-	3	8	13	27	93	170	28
Smuts, Periconia, Myxomycetes	-	7	13	20	40	67	22	13	13	40	120	210	50
§ TOTAL SPORES/m3	240												

¹EMLab Regional Climate codes are a climate classification scheme for regional geographic areas containing multiple states. The MoldRANGE™ Local Climate report uses the sampling location zip code to identify the EMLab Regional Climate code in that area. Using information available from the NOAA weather database, the EMLab Regional Climate code sharpens the precision of the MoldRANGE™reporting system, providing more reliable estimates of the range and average concentrations of the different airborne fungal spore types for each region. Additional information on the EMLab Regional Climate code system can be found on the last page of this report.

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* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

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§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

MoldRANGE™, Local Climate; Extended Outdoor Comparison

Outdoor Location: 041823-27, Outdoors - 100 Wing

Fungi Identified	Outdoor data	Typical Outdoor Data for: April in Central† EMLab Regional Climate code¹ A Annual Temp, B Elev., B Rain, A Temp. Range (n‡=605)						Typical Outdoor Data for: The entire year in Central† EMLab Regional Climate code¹ A Annual Temp, B Elev., B Rain, A Temp. Range (n‡=8577)					
Project zip code 60606	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	13	27	53	22	13	13	53	160	280	52
Bipolaris/Drechslera group	-	-	-	-	-	-	2	7	7	13	27	40	7
Chaetomium	-	-	-	-	-	-	3	7	7	13	20	40	4
Cladosporium	4,100	53	53	210	640	1,200	73	53	110	590	2,200	4,100	85
Curvularia	-	-	-	-	-	-	1	7	7	13	40	53	10
Epicoccum	20	7	13	13	40	53	18	7	13	27	80	150	39
Nigrospora	-	7	7	7	13	53	3	7	13	13	53	93	19
Other brown	-	7	7	13	40	53	10	7	7	13	29	53	11
Penicillium/Aspergillus types	-	27	53	110	270	440	35	53	53	130	400	670	40
Pithomyces	-	-	-	-	-	-	1	7	13	27	57	110	23
Stachybotrys	-	-	-	-	-	-	< 1	7	11	13	59	110	1
Torula	-	-	-	-	-	-	1	7	7	13	46	67	6
Seldom found growing indoors**													
Ascospores	240	53	53	160	510	960	62	53	110	430	1,500	2,800	75
Basidiospores	400	53	53	210	800	1,500	80	53	160	910	3,700	6,700	88
Rusts	-	-	-	-	-	-	3	8	13	27	93	170	28
Smuts, Periconia, Myxomycetes	20	7	13	20	40	67	22	13	13	40	120	210	50
§ TOTAL SPORES/m3	4,800												

¹EMLab Regional Climate codes are a climate classification scheme for regional geographic areas containing multiple states. The MoldRANGE™ Local Climate report uses the sampling location zip code to identify the EMLab Regional Climate code in that area. Using information available from the NOAA weather database, the EMLab Regional Climate code sharpens the precision of the MoldRANGE™reporting system, providing more reliable estimates of the range and average concentrations of the different airborne fungal spore types for each region. Additional information on the EMLab Regional Climate code system can be found on the last page of this report.

†The Typical Outdoor Data represents the typical outdoor spore levels across the region's group of states for the time period and EMLab Regional Climate code indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically and if not enough data is available to make a statistically meaningful assessment, it is indicated with a dash.

‡ n is the sample size used to calculate the MoldRANGE™ Local Climate data summarized in the table.

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

U.S. Patent No. 10,387,458

Eurofins EPK Built Environment Testing, LLC
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 www.eurofinsus.com/Built

Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
Date of Receipt: 04-20-2023
Date of Report: 04-21-2023

Understanding EMLab Regional Climate Codes

Outdoor airborne spore concentrations are strongly influenced by climate and weather patterns, often resulting in pronounced seasonal and diurnal cycles (Burge 1995). The seasonal climatic changes directly affect the growth cycle of plants, thereby influencing fungal growth, spore maturation, and release cycles. By evaluating outdoor spore concentrations across similar climatic zones rather than for the state as a whole, it is possible to provide a more representative estimate of typical outdoor spore levels and frequency of occurrence for different airborne fungal spore types in a given area.

The EMLab Regional Climate code system is a novel classification system that uses data from the NOAA - National Oceanic and Atmospheric Administration database to define unique climate zones. The following climate variables, for each regional zip code, are obtained from NOAA and assigned a letter code of A (above the regional average for that variable) or B (below the regional average for that variable):

1. Annual High Temperature
2. Elevation
3. Rainfall/Precipitation
4. Monthly Temperature Range

The result is a 4-character code assigned to each statewide zip code, referred to as the Regional Climate Code. Below are some examples of decoded Regional Climate Codes:

AAAA = Above avg. Annual High Temperature, Above avg. Elevation, Above avg. Rainfall/Precipitation, Above avg. Monthly Temperature Range
AABB = Above avg. Annual High Temperature, Above avg. Elevation, Below avg. Rainfall/Precipitation, Below avg. Monthly Temperature Range
BBAA = Below avg. Annual High Temperature, Below avg. Elevation, Above avg. Rainfall/Precipitation, Above avg. Monthly Temperature Range

The actual outdoor air sample data from matching regional climate codes in each group of states are then compiled in a manner relating typical spore concentrations and frequency of occurrence.

The data presented in this report is from the Central Region which includes the states of: IL, IN, KY, MO, OH, TN, and WV

The NOAA regional climate variables were selected by mapping data points from a subset of approximately 145,000 weather and geographic database entries to over 80,000 outdoor spore trap samples with known zip codes and assessing them using orthogonal array experimental design techniques. The results were then compared to the typical ranges of spore types found when grouping zip codes using the Koppen-Geiger climatic classification system; a commonly used climatic system that provides an objective numerical definition in terms of climatic elements such as temperature, rainfall, and other seasonal characteristics . The EMLab Regional Climate codes showed improved granularity and refinement of the zip code groupings, implying a better representation of the expected range of spore types to be found within an individual zip code.

The values on this report were calculated by obtaining the four variables listed above from the over 585 million data points of weather and geographic information available in the NOAA database, and determining the frequencies and percentile values of spore types by utilizing over 180,000 Eurofins EMLab P&K outdoor spore trap samples with known zip codes.

This report groups regional zip codes in relation to these EMLab Regional Climate codes and summarizes MoldRANGE™ data by month and year within each EMLab Regional Climate code.

References:
Burge, Harriet, A. Bioaerosols: Boca Raton: Lewis Publishers, pp. 163-171, 1995.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by Eurofins EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, Eurofins EMLab P&K may not have received and tested a representative number of samples for every region or time period. Eurofins EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

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Re: 16900; Spore Trap

Date of Sampling: 04-18-2023
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About Your New MoldRANGE Local Climate Report:

Why am I receiving this report?

The MoldRANGE Local Climate Report is a new supplemental report that contains more specific outdoor reference information for your area. We want you to see this new report so you can decide if it would be a useful tool for your investigations. Eurofins EMLab P&K is the only laboratory that equips you with scientifically-developed and statistically accurate tools like this new report for your mold investigations.

What does this report tell me?

Since the climate and outside spore distribution across even a single state may vary depending upon your location, this report breaks data from states with similar climates into smaller groupings (called EMLab Regional Climate codes) based upon climate data from the NOAA National Climactic Data Center. The spore type data comes from Eurofins EMLab P&K's unparalleled database of over 350,000 spore trap samples. We evaluated each grouping and displayed the typical frequency and counts of a given spore type within that EMLab Regional Climate code. This gives you a point of reference for the number and types of spores usually present in the outdoor air in your area across the month of sampling and the entire year.

What is the cost of this new report?

There is none. MoldRANGE Local Climate is offered as free supplement to Eurofins EMLab P&K clients.

What if I am happy with my existing report preferences and do not wish to receive this report in the future?

Simply contact your Project Manager or email us at EBET.customerservice@et.eurofinsus.com and let us know. We can reset your preferences so that you continue to receive your typical report formats instead.

U.S. Patent No. 10,387,458

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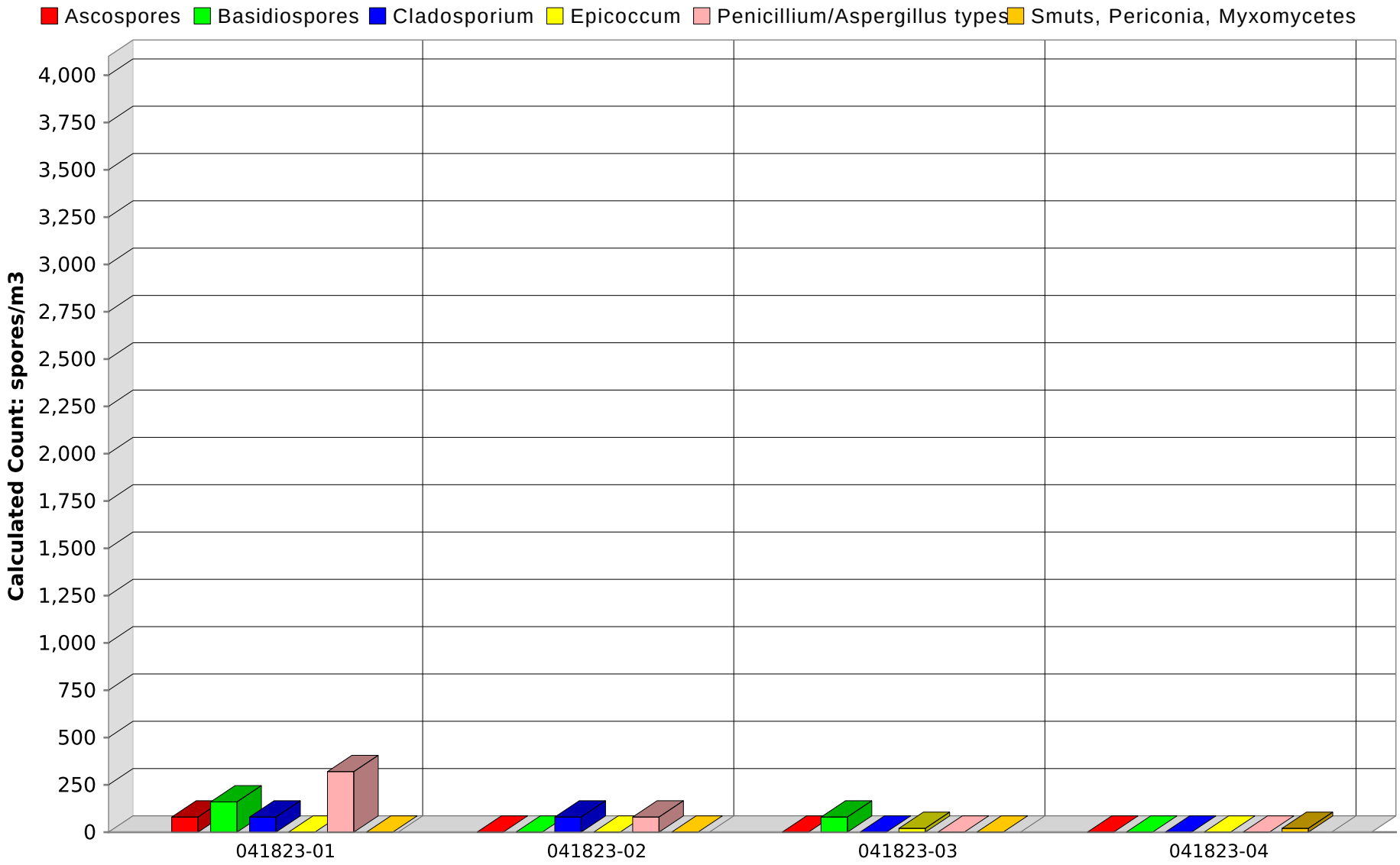
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera.

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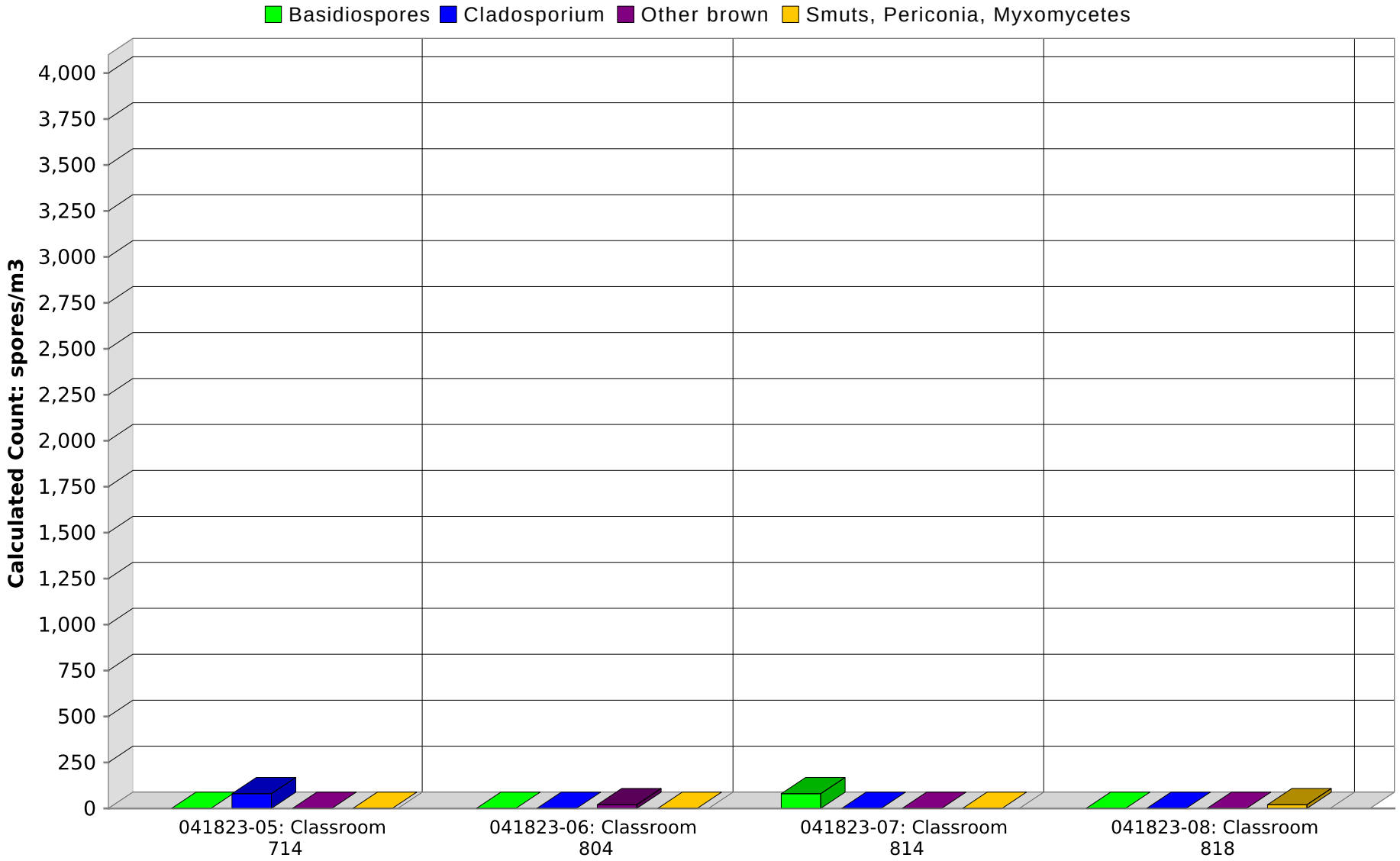

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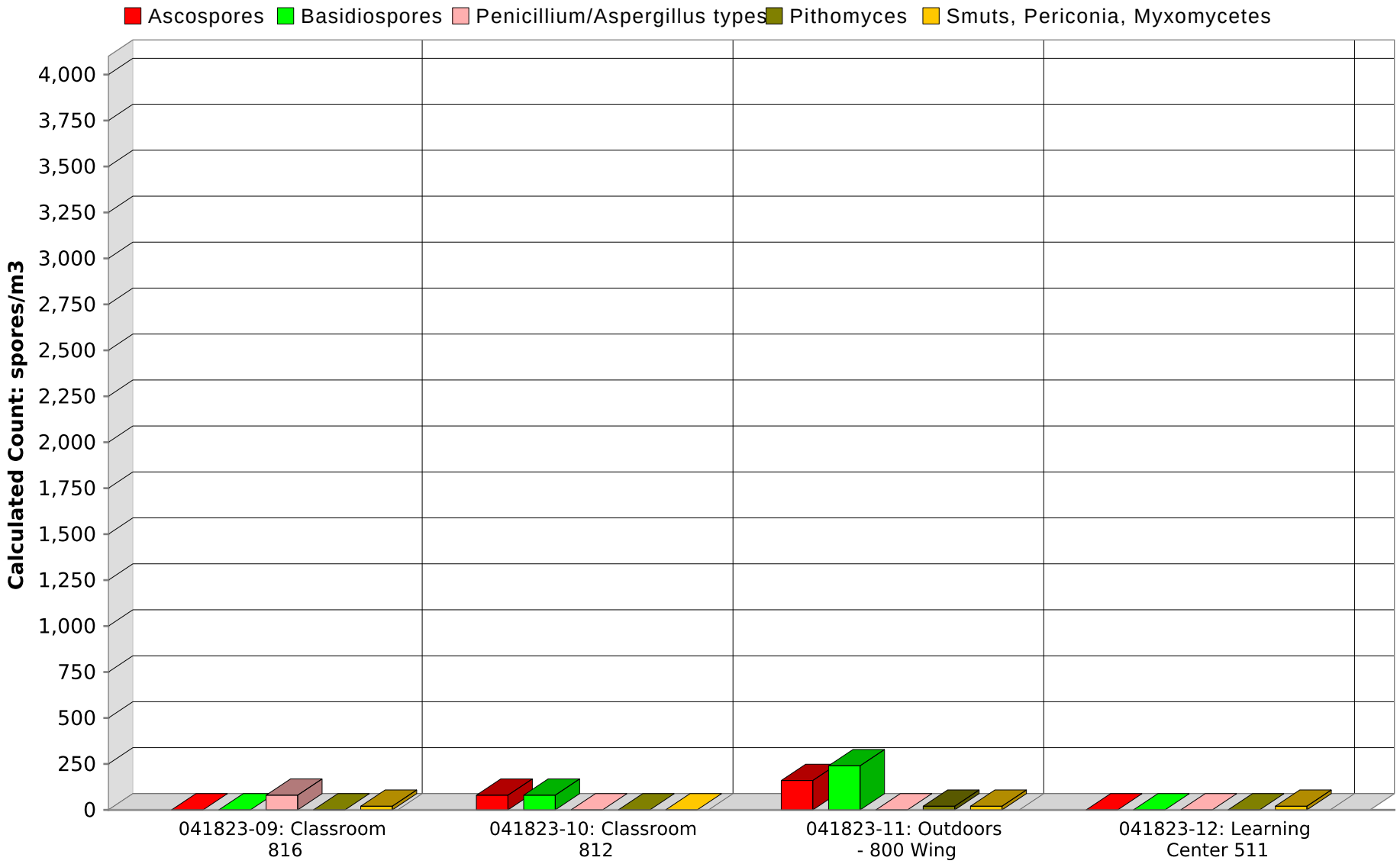

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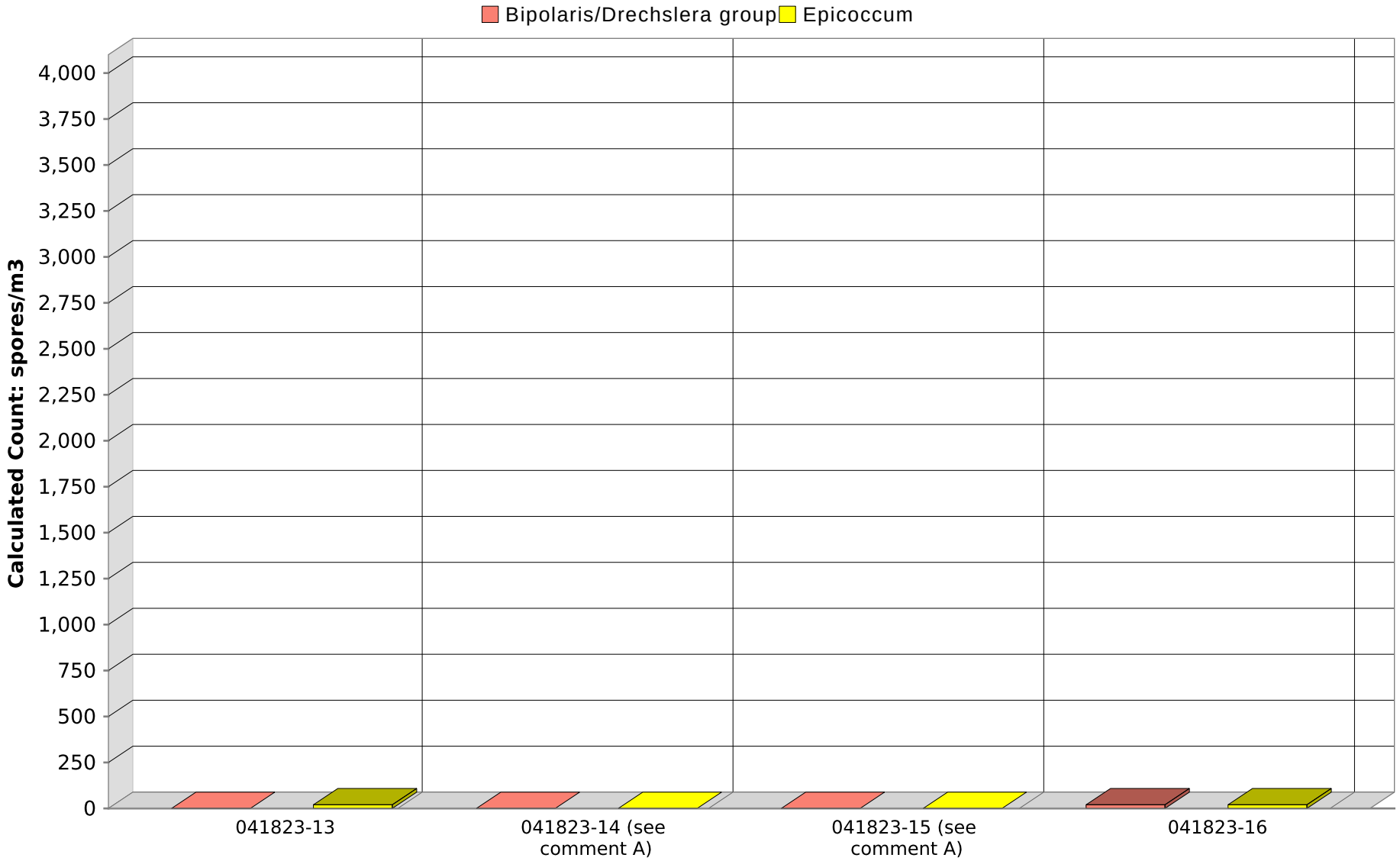

Comments: A) No spores detected.

Note: Graphical output may understate the importance of certain "marker" genera.

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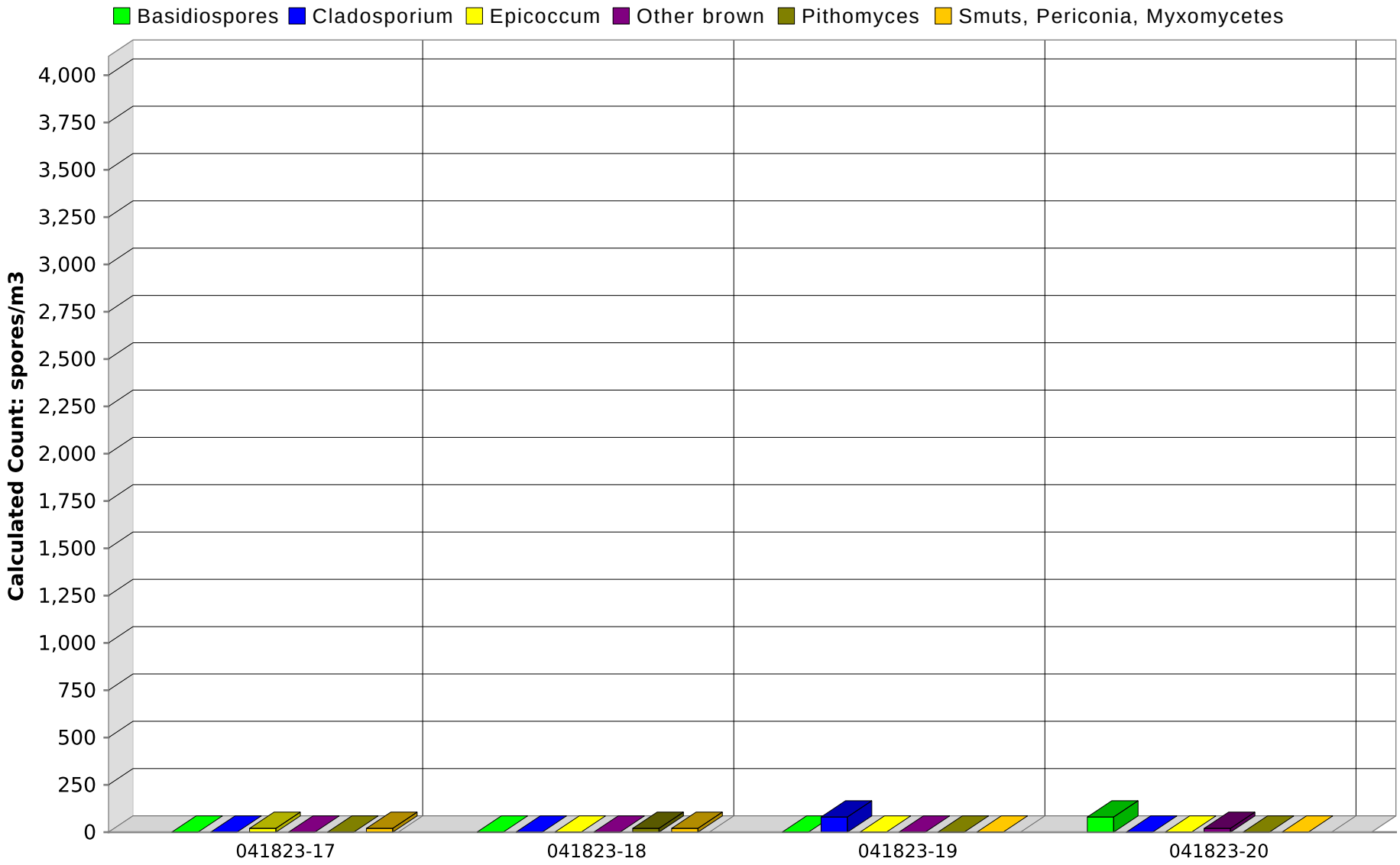

Comments:

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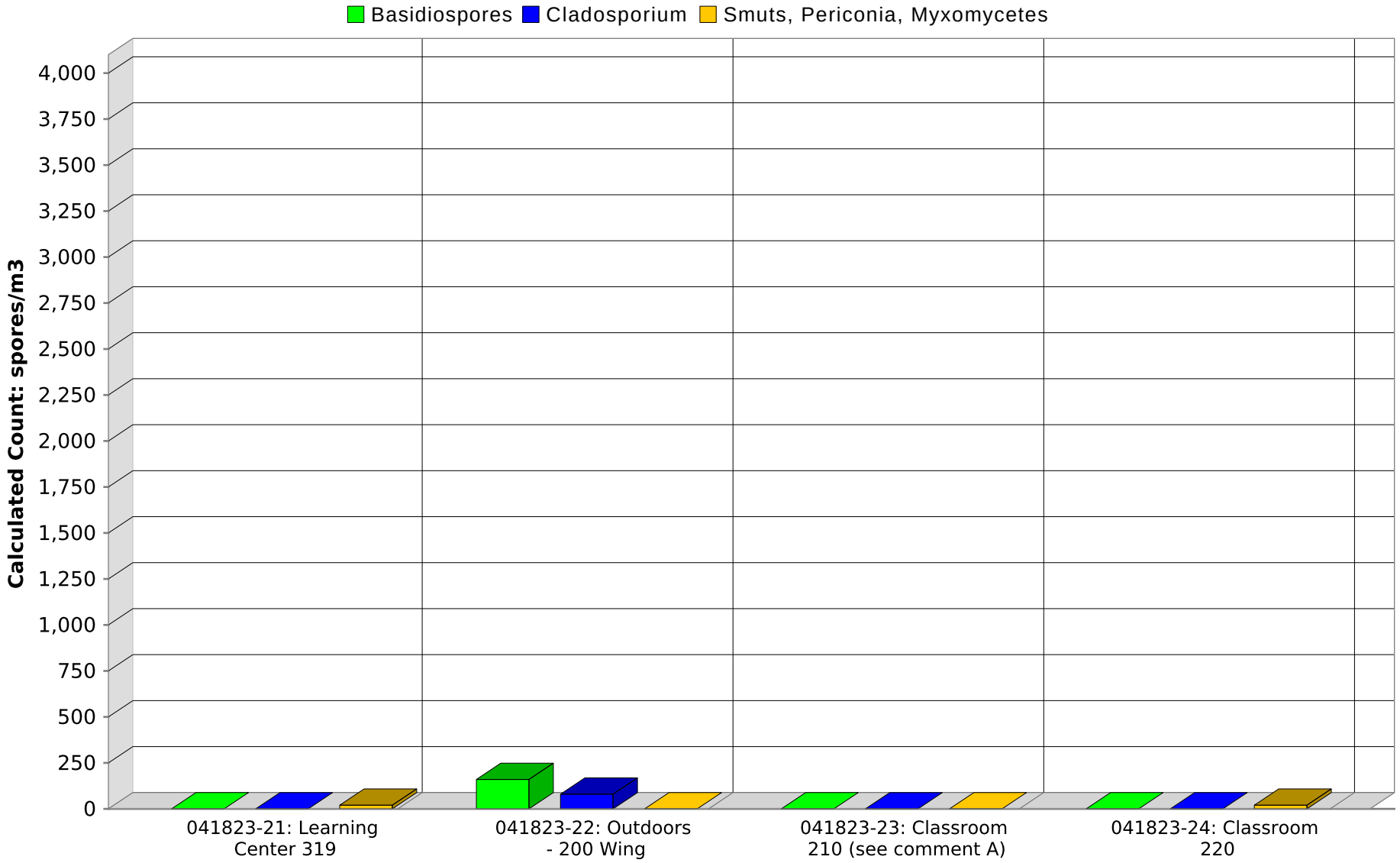

Comments: A) No spores detected.

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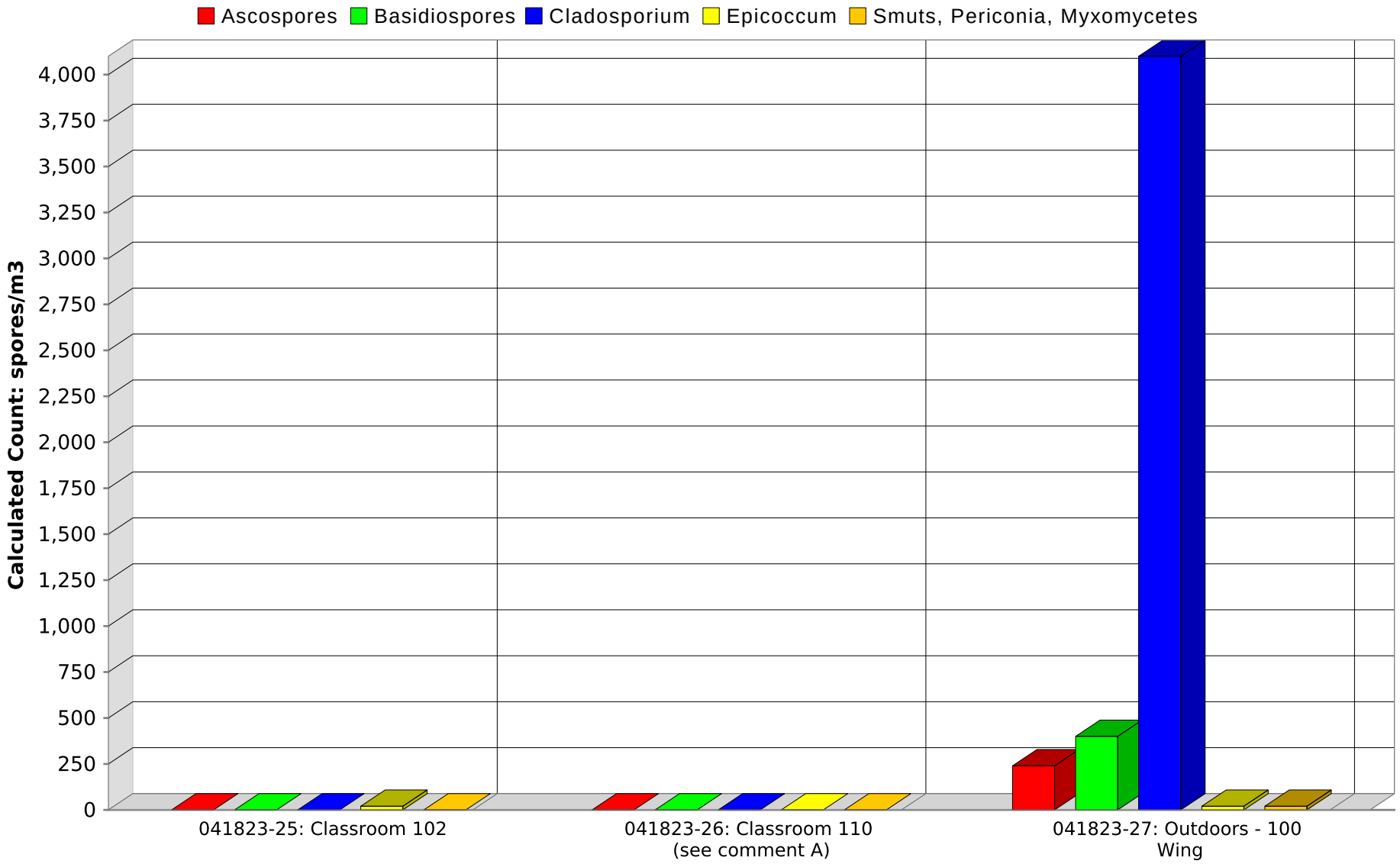

Comments: A) No spores detected.

Note: Graphical output may understate the importance of certain "marker" genera.

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Weather	Fog	Rain
Level: None	☐	☐
Light	☐	☐
Moderate	☐	☐
Heavy	☐	☐

003235496

CONTACT INFORMATION

Company:	Ramboll	Address:	333 W. Wacker Drive, Chicago, IL 60606
Contact:	Scott Fountain	Special Instructions:	Send results to: sfountain@ramboll.com
Phone:	309-287-1397		

PROJECT INFORMATION

Project ID:	160900		
Project Description:			
Project Zip Code:		Sampling Date & Time:	4/18/23
PO Number:		Sampled By:	SF

TURN AROUND TIME CODES (TAT)

STD – Standard (DEFAULT)
ND – Next Business Day
SD – Same Business Day Rush
WH – Weekend / Holiday

Rushes received after 2 pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

REQUESTED SERVICES
(Use checkboxes below)

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume / Area (as applicable)	Notes (Time of day, Temp, RH, etc.)
041823-01	Outdoors - woodland Main Entrance	ST	STD	50 Liters	43.0°F
041823-02	Classroom 600	ST	STD	50L	
041823-03	Classroom 612	ST	STD	50L	
041823-04	Classroom 708	ST	STD	50L	
041823-05	Classroom 714	ST	STD	50L	
041823-06	Classroom ~~804~~ 804	ST	STD	50L	
041823-07	Classroom 814	ST	STD	50L	
041823-08	Classroom 818	ST	STD	50L	
041823-09	Classroom 816	ST	STD	50L	
041823-10	Classroom 812	ST	STD	50L	
041823-11	Outdoors - 800 wing	ST	STD	50L	45.2°

Non-Culturable				Culturable											Other Requests			
Spore Trap		Tape Swab Bulk		BioCassette™, Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plates														
Fungi – Spore Trap Analysis	Spore Trap Analysis – Other particles	Direct Microscopic Exam (Qualitative)	Quantitative Spore Count Direct Exam	1-Media Surface Fungi (Genus ID + Asp. spp.)	2-Media Surface Fungi (Genus ID + Asp. spp.)	3-Media Surface Fungi (Genus ID + Asp. spp.)	Culturable Air Fungi (Genus ID + Asp. spp.)	Gram Stain & Counts (Culturable Air & Surface Bacteria)	Legionella culture	Total Coliform, E. coli (Presence/Absence)	Membrane Filtration (specify organism):	MPN Bacteria (specify organism):	QuantiTray – Sewage Screen	Asbestos Analysis – PCM Airborne Fiber Count (NIOSH 7400)	Asbestos Analysis – PLM (EPA method 600/R-93-116)	PCR (specify test):	
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SAMPLE TYPE CODES

BC – BioCassette ™	**ST** – Spore Trap: Zefon, Allergenco, Burkard ...	**T** – Tape	**D** – Dust
A1S – Anderson		**SW** – Swab	**SO** – Soil
SAS – Surface Air Sampler	**P** – Potable Water	**B** – Bulk	
CP – Contact Plate	**NP** – Non-Potable Water	**O** – Other:	

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
[signature]	4/18/23	HPO	4/20/23
		FX	9:45

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San Bruno, CA: 1150 Bayhill Drive, #100, San Bruno, CA 94066 * **(866) 888-6653**

Weather		Fog	Rain	Snow	Wind	Clear
Level	None	☐	☐	☐	☐	☐
	Light	☐	☐	☐	☐	
	Moderate	☐	☐	☐	☐	
	Heavy	☐	☐	☐	☐	

CONTACT INFORMATION

Company:	Rambell	Address:	333 W. Wacker Drive, Chicago, IL 60606
Contact:	Scott Fountain	Special Instructions:	send results to: sfountain@rambell.com
Phone:	309-287-1397		

PROJECT INFORMATION

Project ID:			
Project Description:			
Project Zip Code:		Sampling Date & Time:	4/18/23
PO Number:		Sampled By:	ST

TURN AROUND TIME CODES (TAT)

STD – Standard (DEFAULT)
ND – Next Business Day
SD – Same Business Day Rush
WH – Weekend / Holiday

Rushes received after 2 pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

REQUESTED SERVICES
(Use checkboxes below)

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume / Area (as applicable)	Notes (Time of day, Temp, RH, etc.)
041823-13	Learning Center 511	ST	STD	50L	
041823-13	Classroom 504	ST	STD	50L	
041823-14	Middle School Cafeteria	ST	STD	50L	
041823-15	Band Room 402	ST	STD	50L	
041823-16	Middle School Gym	ST	STD	50L	
041823-17	Middle School Competition Gym	ST	STD	50L	
041823-18	Elementary school gym (south)	ST	STD	50L	
041823-19	Elementary School Gym (north)	ST	STD	50L	
041823-20	General music 300	ST	STD	50L	
041823-21	Learning center 319	ST	STD	50L	
041823-22	Outdoors - 200 wing	ST	STD	50L	

Non-Culturable				Culturable												Other Requests			
Spore Trap		Tape Swab Bulk		BioCassette™ , Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plates															
Fungi – Spore Trap Analysis	Spore Trap Analysis – Other particles	Direct Microscopic Exam (Qualitative)	Quantitative Spore Count Direct Exam	1-Media Surface Fungi (Genus ID + Asp. spp.)	2-Media Surface Fungi (Genus ID + Asp. spp.)	3-Media Surface Fungi (Genus ID + Asp. spp.)	Culturable Air Fungi (Genus ID + Asp spp.)	Gram Stain & Counts (Culturable Air & Surface Bacteria)	*Legionella* culture	Total Coliform, *E. coli* (Presence/Absence)	Membrane Filtration (specify organism):	MPN Bacteria (specify organism):	QuantiTray – Sewage Screen			Asbestos Analysis – PCM Airborne Fiber Count (NIOSH 7400)	Asbestos Analysis – PLM (EPA method 600/R-93-116)	PCR (specify test):	
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RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
Scott Ft	4/18/23	HPO	4/20/23
		FX	9:45

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~~**San Bruno, CA:** 1150 Bayhill Drive, #100, San Bruno, CA 94066 * **(866) 888-6653**~~

Weather		Fog	Rain	Snow	Wind	Clear
Level	None	☐	☐	☐	☐	☐
	Light	☐	☐	☐	☐	
	Moderate	☐	☐	☐	☐	
	Heavy	☐	☐	☐	☐	

CONTACT INFORMATION

Company:	Ramboll	Address:	333 W. Wacker Dr., Chicago, IL 60606
Contact:	Scott Fountain	Special Instructions:	send results to: sfountain@ramboll.com
Phone:	309-287-1397		

PROJECT INFORMATION

Project ID:			
Project Description:			
Project Zip Code:		Sampling Date & Time:	4/18/23
PO Number:		Sampled By:	SF

TURN AROUND TIME CODES (TAT)

STD – Standard (DEFAULT)
ND – Next Business Day
SD – Same Business Day Rush
WH – Weekend / Holiday

Rushes received after 2 pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

REQUESTED SERVICES
(Use checkboxes below)

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume / Area (as applicable)	Notes (Time of day, Temp, RH, etc.)	Non-Culturable: Spore Trap: Fungi – Spore Trap Analysis	Non-Culturable: Spore Trap: Spore Trap Analysis – Other particles	Non-Culturable: Tape Swab Bulk: Direct Microscopic Exam (Qualitative)	Non-Culturable: Tape Swab Bulk: Quantitative Spore Count Direct Exam	Culturable: BioCassette™, Andersen, SAS, Swab, Water, Bulk, Dust, Soil, Contact Plates: 1-Media Surface Fungi (Genus ID + Asp. spp.)	2-Media Surface Fungi (Genus ID + Asp. spp.)	3-Media Surface Fungi (Genus ID + Asp. spp.)	Culturable Air Fungi (Genus ID + Asp. spp.)	Gram Stain & Counts (Culturable Air & Surface Bacteria)	*Legionella* culture	Total Coliform, *E. coli* (Presence/Absence)	Membrane Filtration (specify organism)	MPN Bacteria (specify organism):	QuantiTray – Sewage Screen	Other Requests: Asbestos Analysis – PCM Airborne Fiber Count (NIOSH 7400)	Asbestos Analysis – PLM (EPA method 600/R-93-116)	PCR (specify test):	
041823-23	Classroom 210	ST	STD	50L		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
041823-24	Classroom 220	ST	STD	50L		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
041823-25	Classroom 102	ST	STD	50L		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
041823-26	Classroom 110	ST	STD	50L		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
041823-27	Outdoors - 100 wing	ST	STD	50L		☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

SAMPLE TYPE CODES

BC – BioCassette ™	**ST** – Spore Trap: Zefon, Allergenco, Burkard ...	**T** – Tape	**D** – Dust
A1S – Anderson		**SW** – Swab	**SO** – Soil
SAS – Surface Air Sampler	**P** – Potable Water	**B** – Bulk	
CP – Contact Plate	**NP** – Non-Potable Water	**O** – Other:	

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
Scott Ft	4/18/23	FedEx	4/20/23
		FX	9:45

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at http://www.emlab.com/s/main/serviceterms.html

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eurofins | Built Environment Testing

Report for:

Mr. Scott Fountain
Ramboll US Corporation: Illinois
333 W. Wacker Drive, Suite 2700
Chicago, IL 60606

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: 1690030209-001
EML ID: 3248819

Approved by:

Technical Manager
Ariunaa Jalsrai

Dates of Analysis:
Spore trap analysis: 05-03-2023

Service SOPs: Spore trap analysis (EM-MY-S-1038)
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 and tested. Information supplied by the client which can affect the validity of results: sample air volume.

Eurofins EPK Built Environment Testing, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, 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.
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Eurofins EPK Built Environment Testing, LLC
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 www.eurofinsus.com/Built

Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-01: Outdoors-Woodland main Entrance			050123-02: Classroom 708		
Comments (see below)	None			A		
Lab ID-Version‡:	15748495-1			15748496-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	3	25	240			
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	< 1+			1+		
Hyphal fragments/m3	20			20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	< 1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			240			< 20

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ 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".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-03: Classroom 714			050123-04: Classroom 804		
Comments (see below)	A			None		
Lab ID-Version‡:	15748497-1			15748498-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores						
Botrytis						
Chaetomium						
Cladosporium				1	25	80
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			< 20			80

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

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Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-05: Classroom 818			050123-06: Classroom 814		
Comments (see below)	None			A		
Lab ID-Version‡:	15748499-1			15748500-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	1	25	80			
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			80			< 20

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

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Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-07: Classroom 816			050123-08: Classroom 812		
Comments (see below)	None			A		
Lab ID-Version‡:	15748501-1			15748502-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	1	25	80			
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts	1	100	20			
Smuts, Periconia, Myxomycetes	1	100	20			
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			2+		
Hyphal fragments/m3	20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	2+			2+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			120			< 20

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

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Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-09: Outdoors - 800 wing			050123-10: Classroom 600		
Comments (see below)	None			None		
Lab ID-Version‡:	15748503-1			15748504-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores	7	25	560			
Basidiospores	9	25	720	1	25	80
Botrytis						
Chaetomium						
Cladosporium	2	25	160			
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†				1	25	80
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			2+		
Hyphal fragments/m3	20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			2+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			1,400			160

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
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Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-11: Classroom 612			050123-12: Learning Center 511		
Comments (see below)	None			A		
Lab ID-Version‡:	15748505-1			15748506-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	2	25	160			
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†	1	25	80			
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			1+		
Hyphal fragments/m3	20			< 20		
Pollen/m3	20			< 20		
Skin cells (1-4+)	2+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			240			< 20

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

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Eurofins EPK Built Environment Testing, LLC
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(866) 871-1984 www.eurofinsus.com/Built

Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-13: Classroom 504			050123-14: Middle School Cafeteria		
Comments (see below)	None			None		
Lab ID-Version‡:	15748507-1			15748508-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores				1	25	80
Basidiospores	2	25	160	4	25	320
Botrytis						
Chaetomium						
Cladosporium	1	25	80			
Curvularia						
Epicoccum	1	100	20			
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†				4	25	320
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			2+		
Hyphal fragments/m3	< 20			80		
Pollen/m3	40			20		
Skin cells (1-4+)	2+			2+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			260			720

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
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Eurofins EPK Built Environment Testing, LLC
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(866) 871-1984 www.eurofinsus.com/Built

Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-15: Band Room 402			050123-16: Middle School Gym		
Comments (see below)	None			A		
Lab ID-Version‡:	15748509-1			15748510-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	2	25	160			
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			2+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	2+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			160			< 20

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ 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".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-17: Middle School Competition Gym			050123-18: Elementary School Gym (South)		
Comments (see below)	None			None		
Lab ID-Version‡:	15748511-1			15748512-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	3	25	240	1	25	80
Botrytis						
Chaetomium						
Cladosporium	1	25	80			
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†	2	25	160			
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			2+		
Hyphal fragments/m3	40			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			2+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			480			80

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ 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".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-19: Elementary School Gym (North)			050123-20: General Music 300		
Comments (see below)	None			None		
Lab ID-Version‡:	15748513-1			15748514-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	1	25	80	2	25	160
Botrytis						
Chaetomium						
Cladosporium				1	25	80
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	2+			3+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	20			< 20		
Skin cells (1-4+)	2+			3+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			80			240

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
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§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-21: General Music 319			050123-22: Outdoors - 200 wing		
Comments (see below)	None			None		
Lab ID-Version‡:	15748515-1			15748516-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores				4	25	320
Basidiospores	1	25	80	6	25	480
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†	1	25	80			
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			1+		
Hyphal fragments/m3	20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			1+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			160			800

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
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§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-23: Classroom 210			050123-24: Classroom 220		
Comments (see below)	None			None		
Lab ID-Version‡:	15748517-1			15748518-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores	1	25	80	1	25	80
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†				1	25	80
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			2+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			2+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			80			160

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-25: Classroom 102			050123-26: Classroom - 110		
Comments (see below)	A			None		
Lab ID-Version‡:	15748519-1			15748520-1		
Analysis Date:	05/03/2023			05/03/2023		
	raw ct.	% read	spores/m3	raw ct.	% read	spores/m3
Ascospores						
Basidiospores				2	25	160
Botrytis						
Chaetomium						
Cladosporium						
Curvularia						
Epicoccum						
Fusarium						
Myrothecium						
Nigrospora						
Other colorless						
Penicillium/Aspergillus types†						
Pithomyces						
Rusts						
Smuts, Periconia, Myxomycetes						
Stachybotrys						
Stemphylium						
Torula						
Ulocladium						
Zygomycetes						
Background debris (1-4+)††	1+			2+		
Hyphal fragments/m3	< 20			< 20		
Pollen/m3	< 20			< 20		
Skin cells (1-4+)	1+			2+		
Sample volume (liters)	50			50		
§ TOTAL SPORES/m3			< 20			160

Comments: A) No spores detected.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
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§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	050123-27: Outdoors - 100 wing		
Comments (see below)	None		
Lab ID-Version‡:	15748521-1		
Analysis Date:	05/03/2023		
	raw ct.	% read	spores/m3
Ascospores	2	25	160
Basidiospores	4	25	320
Botrytis			
Chaetomium			
Cladosporium			
Curvularia			
Epicoccum			
Fusarium			
Myrothecium			
Nigrospora			
Other colorless			
Penicillium/Aspergillus types†			
Pithomyces			
Rusts			
Smuts, Periconia, Myxomycetes			
Stachybotrys			
Stemphylium			
Torula			
Ulocladium			
Zygomycetes			
Background debris (1-4+)††	1+		
Hyphal fragments/m3	< 20		
Pollen/m3	< 20		
Skin cells (1-4+)	< 1+		
Sample volume (liters)	50		
§ TOTAL SPORES/m3			480

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample, indicating a raw count of <1 spore.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium*, *Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m^3 divided by the raw count, expressed in spores/m^3, per spore and per sample.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ 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".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

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Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 050123-01, Outdoors-Woodland main Entrance

Fungi Identified	Outdoor data	Typical Outdoor Data for: May in Illinois† (n‡=4051)						Typical Outdoor Data for: The entire year in Illinois† (n‡=47666)					
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	27	67	120	45	13	13	53	170	320	53
Bipolaris/Drechslera group	-	7	7	13	27	53	4	7	7	13	27	47	8
Chaetomium	-	7	7	13	33	110	5	7	7	13	27	67	4
Cladosporium	-	53	120	430	1,500	2,600	86	53	110	640	2,600	4,800	86
Curvularia	-	7	7	13	27	53	2	7	7	13	40	80	11
Epicoccum	-	7	10	13	40	67	25	10	13	27	100	190	42
Nigrospora	-	7	7	13	13	27	5	7	13	20	53	110	20
Penicillium/Aspergillus types	-	27	53	110	270	480	33	27	53	110	370	690	42
Stachybotrys	-	7	7	13	40	130	2	7	7	13	53	130	2
Torula	-	7	7	13	40	80	4	7	7	13	47	75	7
Seldom found growing indoors**													
Ascospores	-	80	160	590	2,300	4,300	92	53	110	430	1,600	3,000	76
Basidiospores	240	80	160	640	2,300	4,400	93	53	160	910	3,600	6,500	87
Rusts	-	7	7	13	40	77	9	7	13	27	110	200	29
Smuts, Periconia, Myxomycetes	-	10	13	27	67	130	46	13	13	40	120	210	51
§ TOTAL SPORES/m3	240												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by Eurofins EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, Eurofins EMLab P&K may not have received and tested a representative number of samples for every region or time period. Eurofins EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

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Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 050123-09, Outdoors - 800 wing

Fungi Identified	Outdoor data	Typical Outdoor Data for: May in Illinois† (n‡=4051)						Typical Outdoor Data for: The entire year in Illinois† (n‡=47666)					
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	27	67	120	45	13	13	53	170	320	53
Bipolaris/Drechslera group	-	7	7	13	27	53	4	7	7	13	27	47	8
Chaetomium	-	7	7	13	33	110	5	7	7	13	27	67	4
Cladosporium	160	53	120	430	1,500	2,600	86	53	110	640	2,600	4,800	86
Curvularia	-	7	7	13	27	53	2	7	7	13	40	80	11
Epicoccum	-	7	10	13	40	67	25	10	13	27	100	190	42
Nigrospora	-	7	7	13	13	27	5	7	13	20	53	110	20
Penicillium/Aspergillus types	-	27	53	110	270	480	33	27	53	110	370	690	42
Stachybotrys	-	7	7	13	40	130	2	7	7	13	53	130	2
Torula	-	7	7	13	40	80	4	7	7	13	47	75	7
Seldom found growing indoors**													
Ascospores	560	80	160	590	2,300	4,300	92	53	110	430	1,600	3,000	76
Basidiospores	720	80	160	640	2,300	4,400	93	53	160	910	3,600	6,500	87
Rusts	-	7	7	13	40	77	9	7	13	27	110	200	29
Smuts, Periconia, Myxomycetes	-	10	13	27	67	130	46	13	13	40	120	210	51
§ TOTAL SPORES/m3	1,400												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

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Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 050123-22, Outdoors - 200 wing

Fungi Identified	Outdoor data	Typical Outdoor Data for: May in Illinois† (n‡=4051)						Typical Outdoor Data for: The entire year in Illinois† (n‡=47666)					
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	27	67	120	45	13	13	53	170	320	53
Bipolaris/Drechslera group	-	7	7	13	27	53	4	7	7	13	27	47	8
Chaetomium	-	7	7	13	33	110	5	7	7	13	27	67	4
Cladosporium	-	53	120	430	1,500	2,600	86	53	110	640	2,600	4,800	86
Curvularia	-	7	7	13	27	53	2	7	7	13	40	80	11
Epicoccum	-	7	10	13	40	67	25	10	13	27	100	190	42
Nigrospora	-	7	7	13	13	27	5	7	13	20	53	110	20
Penicillium/Aspergillus types	-	27	53	110	270	480	33	27	53	110	370	690	42
Stachybotrys	-	7	7	13	40	130	2	7	7	13	53	130	2
Torula	-	7	7	13	40	80	4	7	7	13	47	75	7
Seldom found growing indoors**													
Ascospores	320	80	160	590	2,300	4,300	92	53	110	430	1,600	3,000	76
Basidiospores	480	80	160	640	2,300	4,400	93	53	160	910	3,600	6,500	87
Rusts	-	7	7	13	40	77	9	7	13	27	110	200	29
Smuts, Periconia, Myxomycetes	-	10	13	27	67	130	46	13	13	40	120	210	51
§ TOTAL SPORES/m3	800												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by Eurofins EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, Eurofins EMLab P&K may not have received and tested a representative number of samples for every region or time period. Eurofins EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

Eurofins EPK Built Environment Testing, LLC
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 www.eurofinsus.com/Built

Client: Ramboll US Corporation: Illinois
C/O: Mr. Scott Fountain
Re: 1690030209-001

Date of Receipt: 05-03-2023
Date of Report: 05-04-2023

MoldRANGE™: Extended Outdoor Comparison

Outdoor Location: 050123-27, Outdoors - 100 wing

Fungi Identified	Outdoor data	Typical Outdoor Data for: May in Illinois† (n‡=4051)						Typical Outdoor Data for: The entire year in Illinois† (n‡=47666)					
	spores/m3	very low	low	med	high	very high	freq %	very low	low	med	high	very high	freq %
Generally able to grow indoors*													
Alternaria	-	7	13	27	67	120	45	13	13	53	170	320	53
Bipolaris/Drechslera group	-	7	7	13	27	53	4	7	7	13	27	47	8
Chaetomium	-	7	7	13	33	110	5	7	7	13	27	67	4
Cladosporium	-	53	120	430	1,500	2,600	86	53	110	640	2,600	4,800	86
Curvularia	-	7	7	13	27	53	2	7	7	13	40	80	11
Epicoccum	-	7	10	13	40	67	25	10	13	27	100	190	42
Nigrospora	-	7	7	13	13	27	5	7	13	20	53	110	20
Penicillium/Aspergillus types	-	27	53	110	270	480	33	27	53	110	370	690	42
Stachybotrys	-	7	7	13	40	130	2	7	7	13	53	130	2
Torula	-	7	7	13	40	80	4	7	7	13	47	75	7
Seldom found growing indoors**													
Ascospores	160	80	160	590	2,300	4,300	92	53	110	430	1,600	3,000	76
Basidiospores	320	80	160	640	2,300	4,400	93	53	160	910	3,600	6,500	87
Rusts	-	7	7	13	40	77	9	7	13	27	110	200	29
Smuts, Periconia, Myxomycetes	-	10	13	27	67	130	46	13	13	40	120	210	51
§ TOTAL SPORES/m3	480												

†The 'Typical Outdoor Data' represents the typical outdoor spore levels for the location and time frame indicated. The last column represents the frequency of occurrence. The very low, low, med, high, and very high values represent the 10, 20, 50, 80, and 90 percentile values of the spore type when it is detected. For example, if the frequency of occurrence is 63% and the low value is 53, it would mean that the given spore type is detected 63% of the time and, when detected, 20% of the time it is present in levels above the detection limit and below 53 spores/m3. These values are updated periodically, and if enough data is not available to make a statistically meaningful assessment, it is indicated with a dash.

§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

* The spores in this category are generally capable of growing on wet building materials in addition to growing outdoors. Building related growth is dependent upon the fungal type, moisture level, type of material, and other factors. *Cladosporium* is one of the predominant spore types worldwide and is frequently present in high numbers. *Penicillium/Aspergillus* species colonize both outdoor and indoor wet surfaces rapidly and are very easily dispersed. Other genera are usually present in lesser numbers.

** These fungi are generally not found growing on wet building materials. For example, the rusts and smuts are obligate plant pathogens. However, in each group there are notable exceptions. For example, agents of wood decay are members of the basidiomycetes and high counts of a single morphological type of basidiospore on an inside sample should be considered significant.

‡n = number of samples used to calculate data.

Interpretation of the data contained in this report is left to the client or the persons who conducted the field work. This report is provided for informational and comparative purposes only and should not be relied upon for any other purpose. "Typical outdoor data" are based on the results of the analysis of samples delivered to and analyzed by Eurofins EMLab P&K and assumptions regarding the origins of those samples. Sampling techniques, contaminants infecting samples, unrepresentative samples and other similar or dissimilar factors may affect these results. In addition, Eurofins EMLab P&K may not have received and tested a representative number of samples for every region or time period. Eurofins EMLab P&K hereby disclaims any liability for any and all direct, indirect, punitive, incidental, special or consequential damages arising out of the use or interpretation of the data contained in, or any actions taken or omitted in reliance upon, this report.

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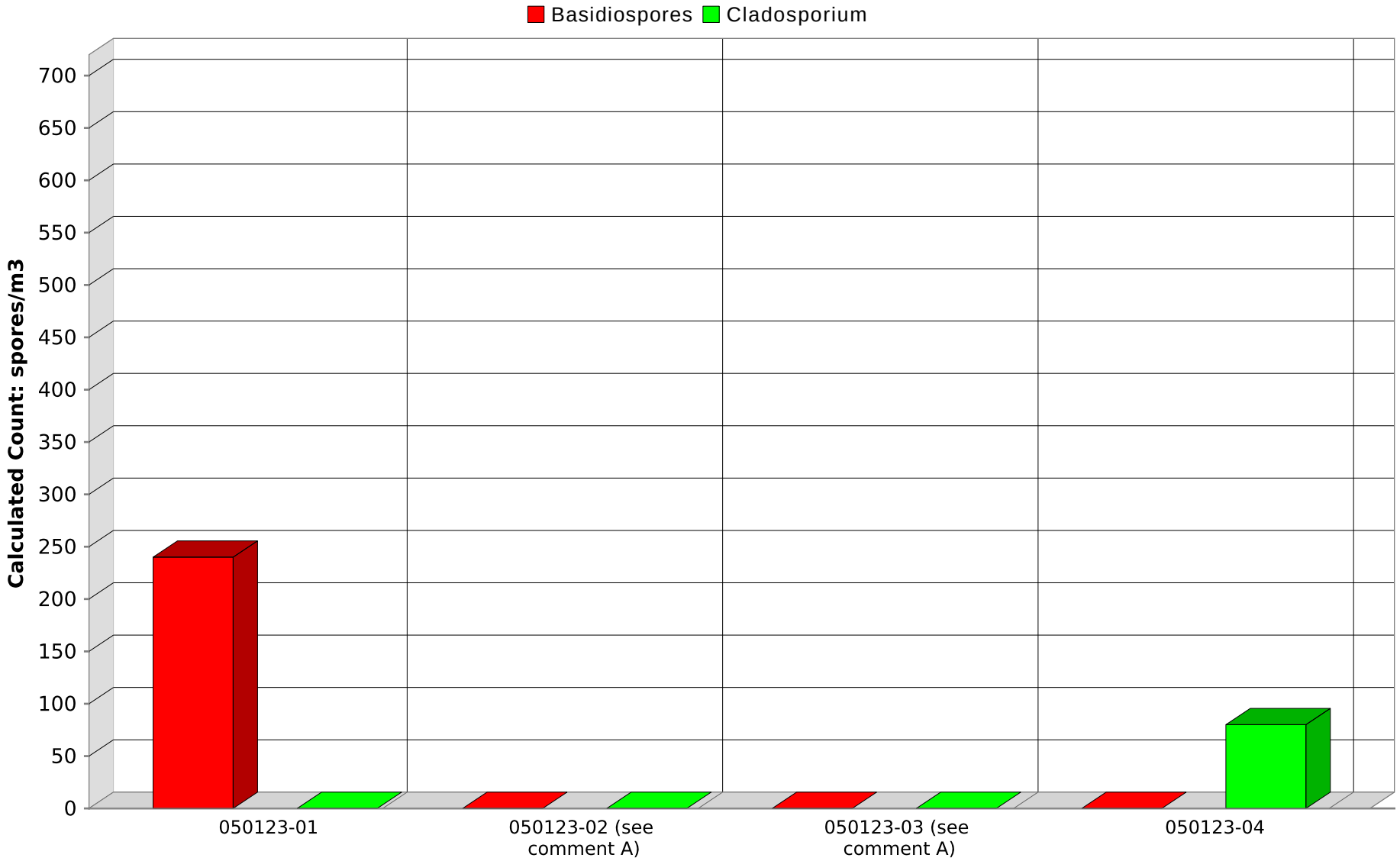
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments: A) No spores detected.

Note: Graphical output may understate the importance of certain "marker" genera.

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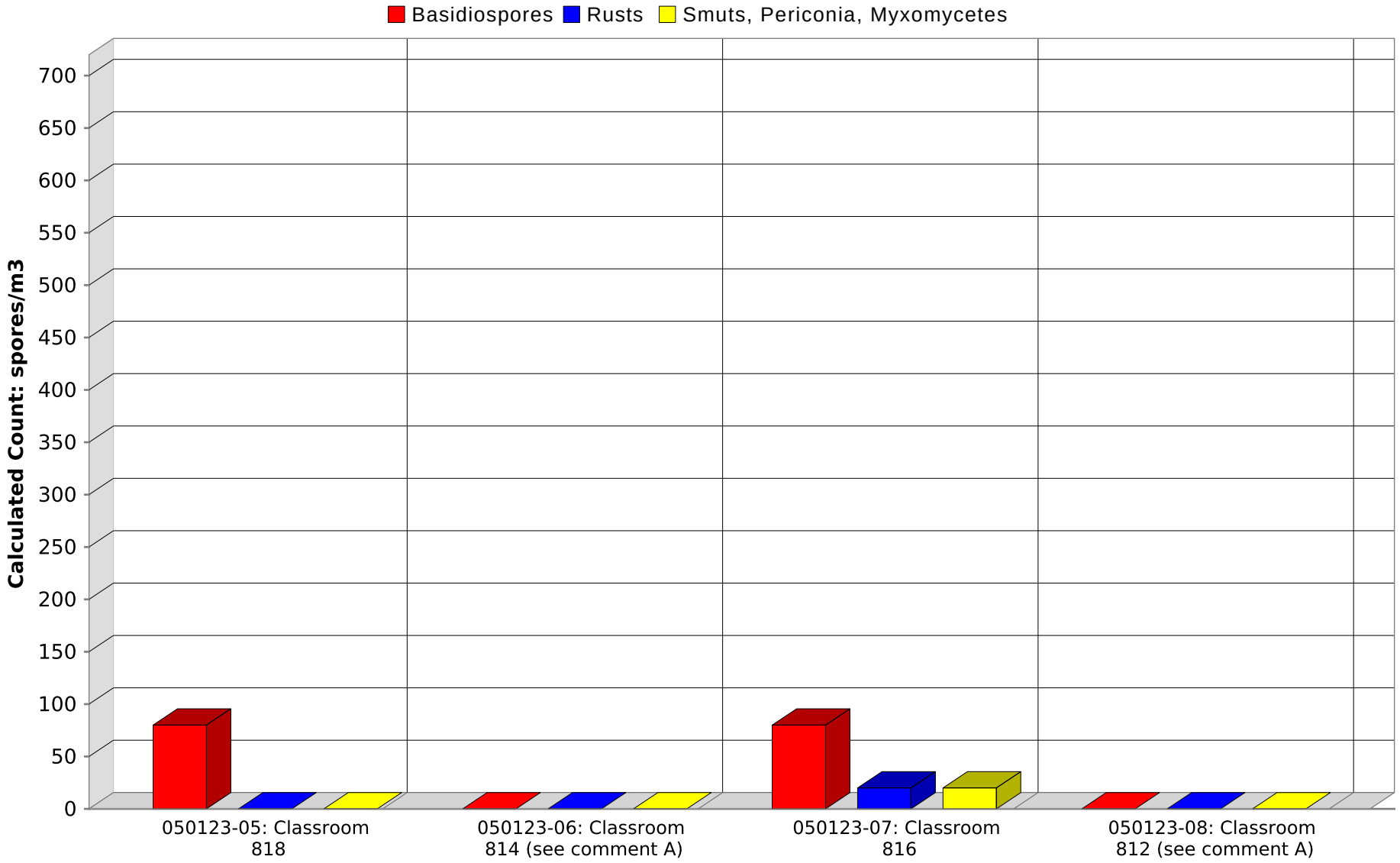
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments: A) No spores detected.

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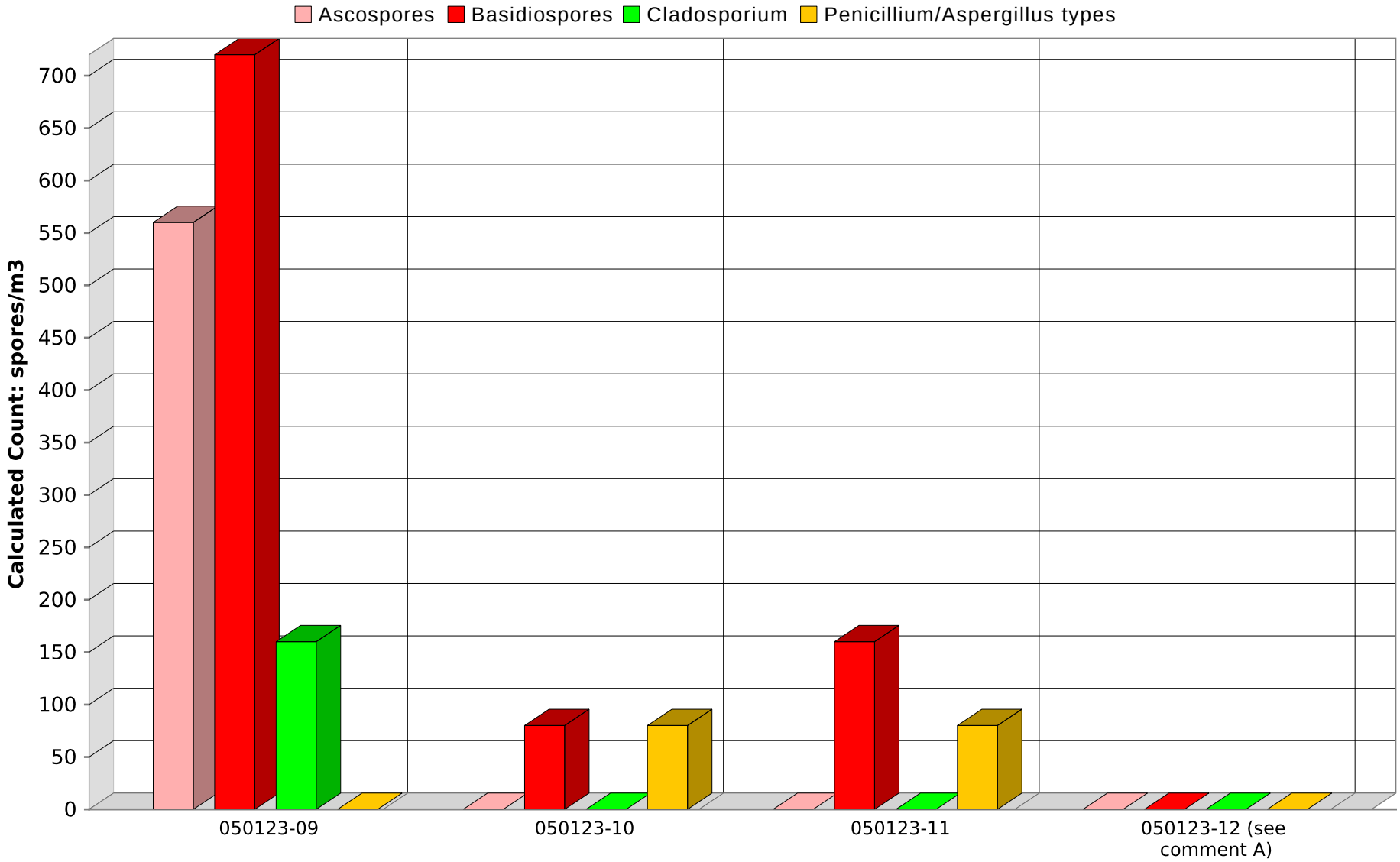
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments: A) No spores detected.

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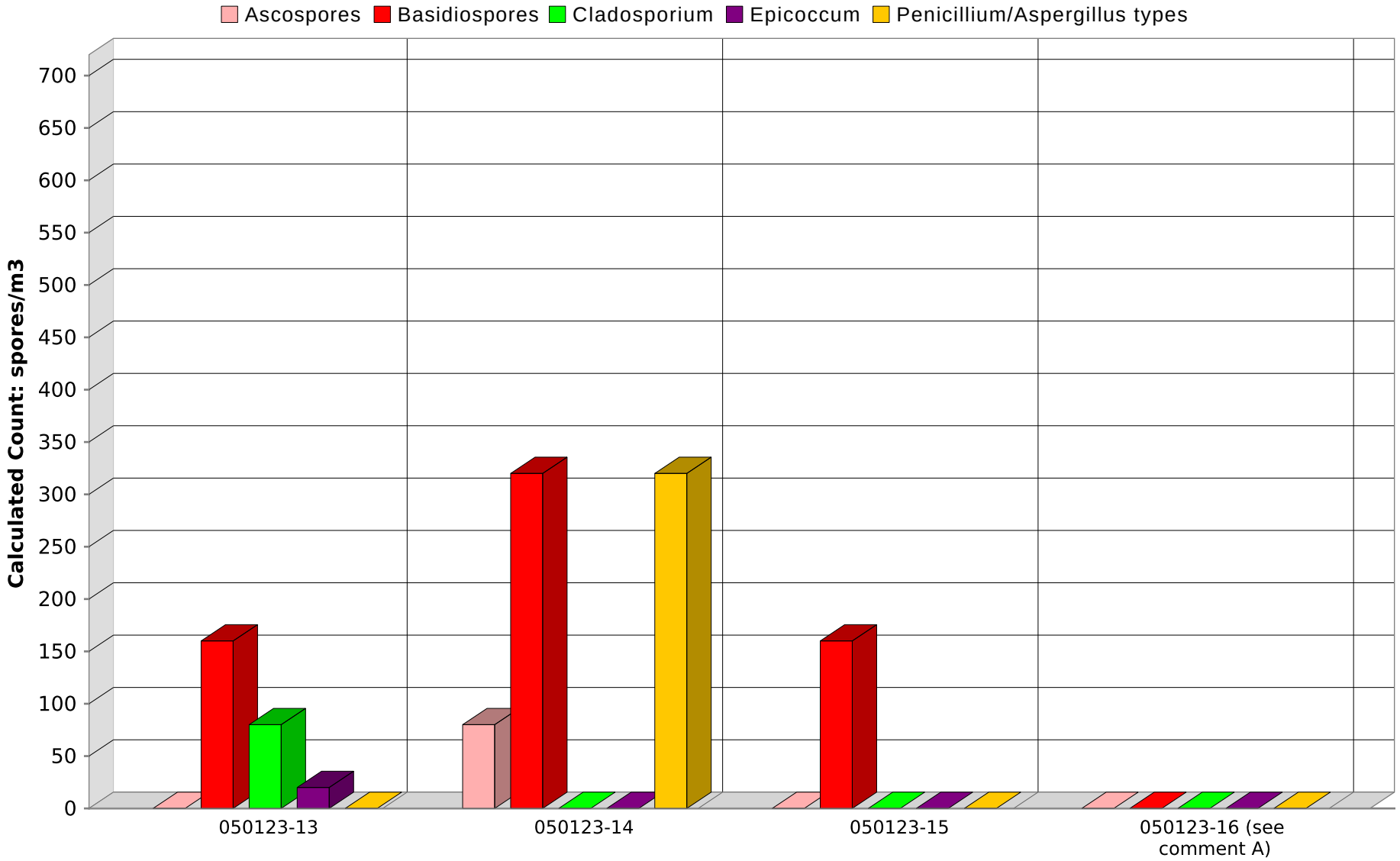
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



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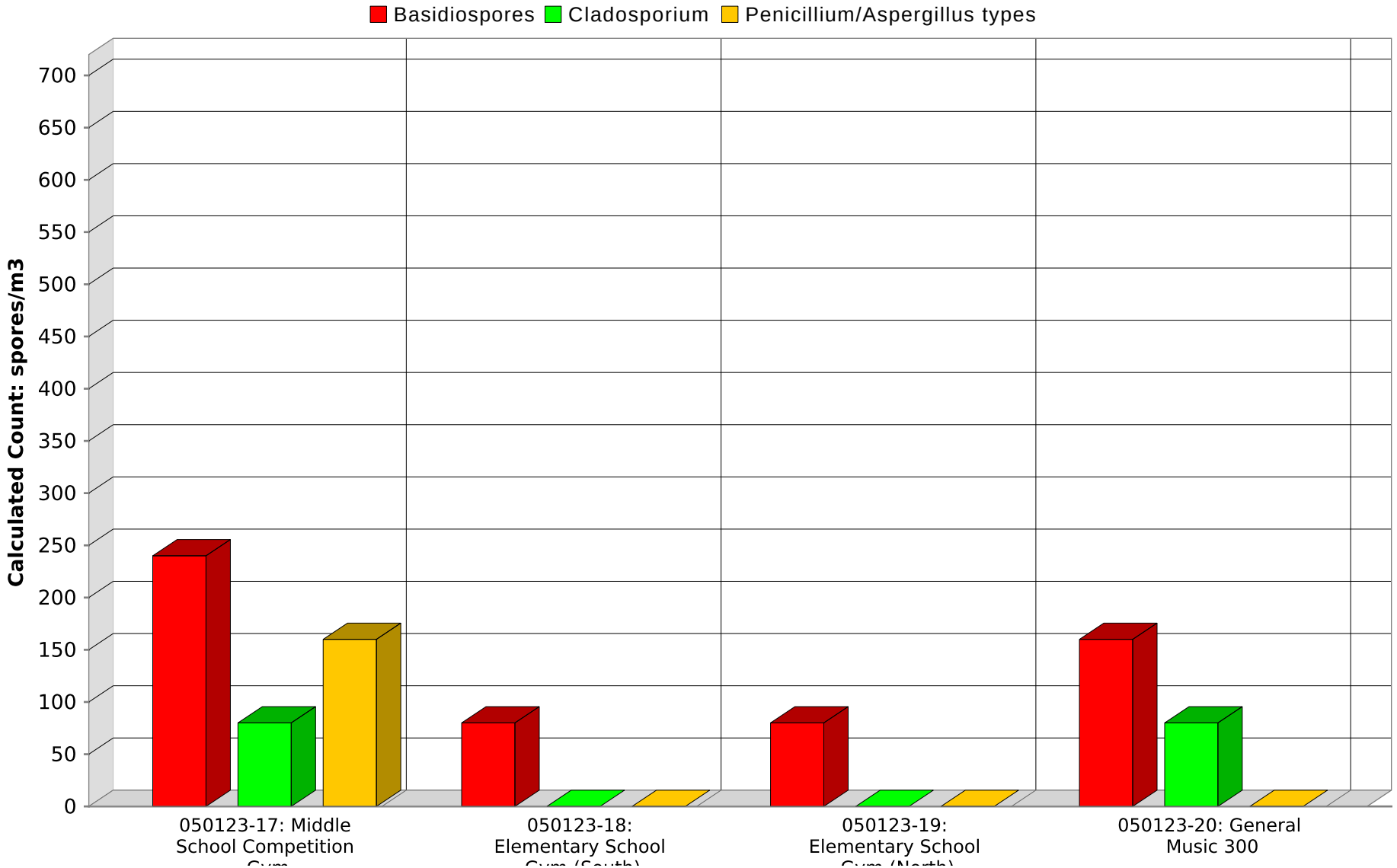
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera.

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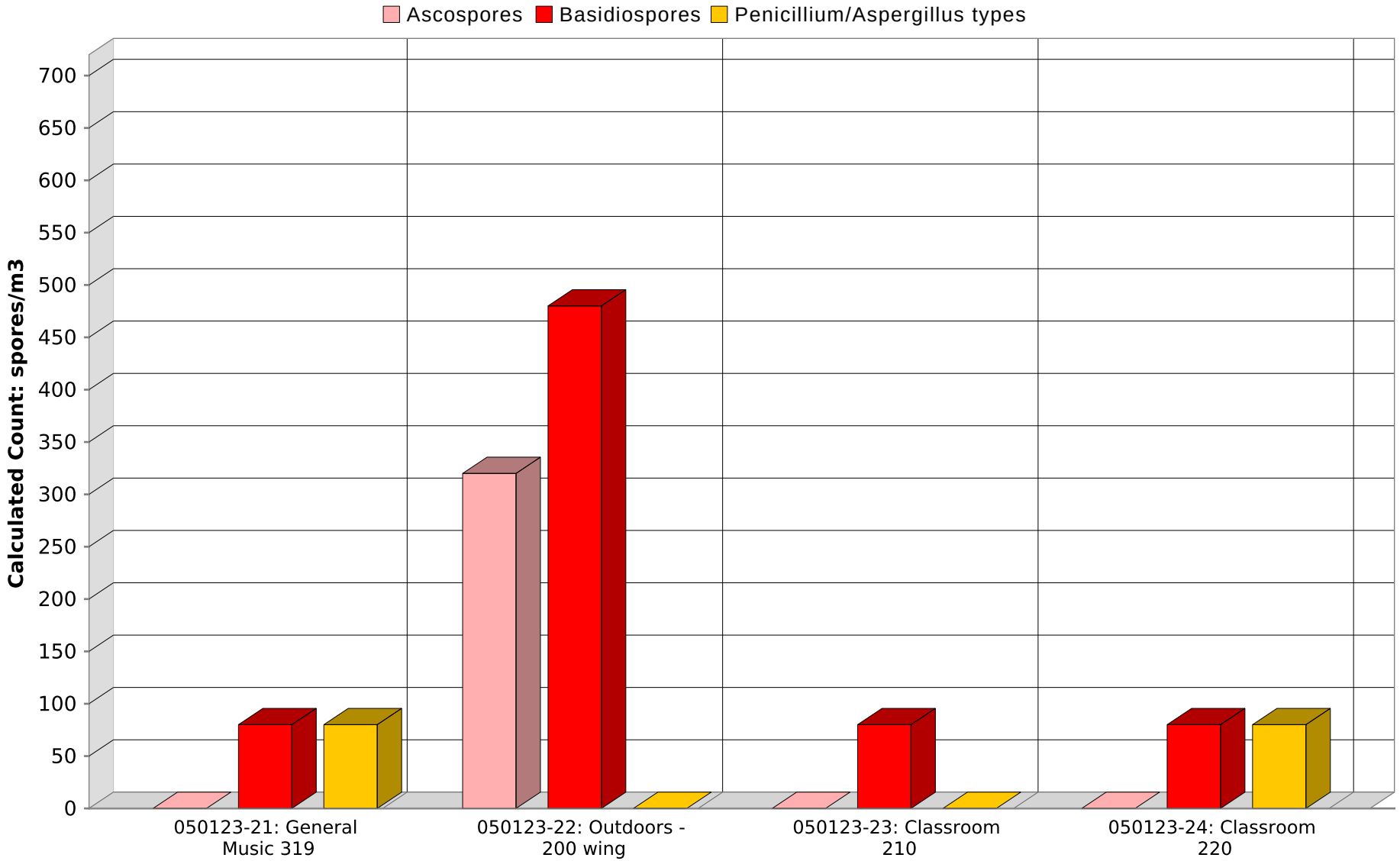
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments:

Note: Graphical output may understate the importance of certain "marker" genera.

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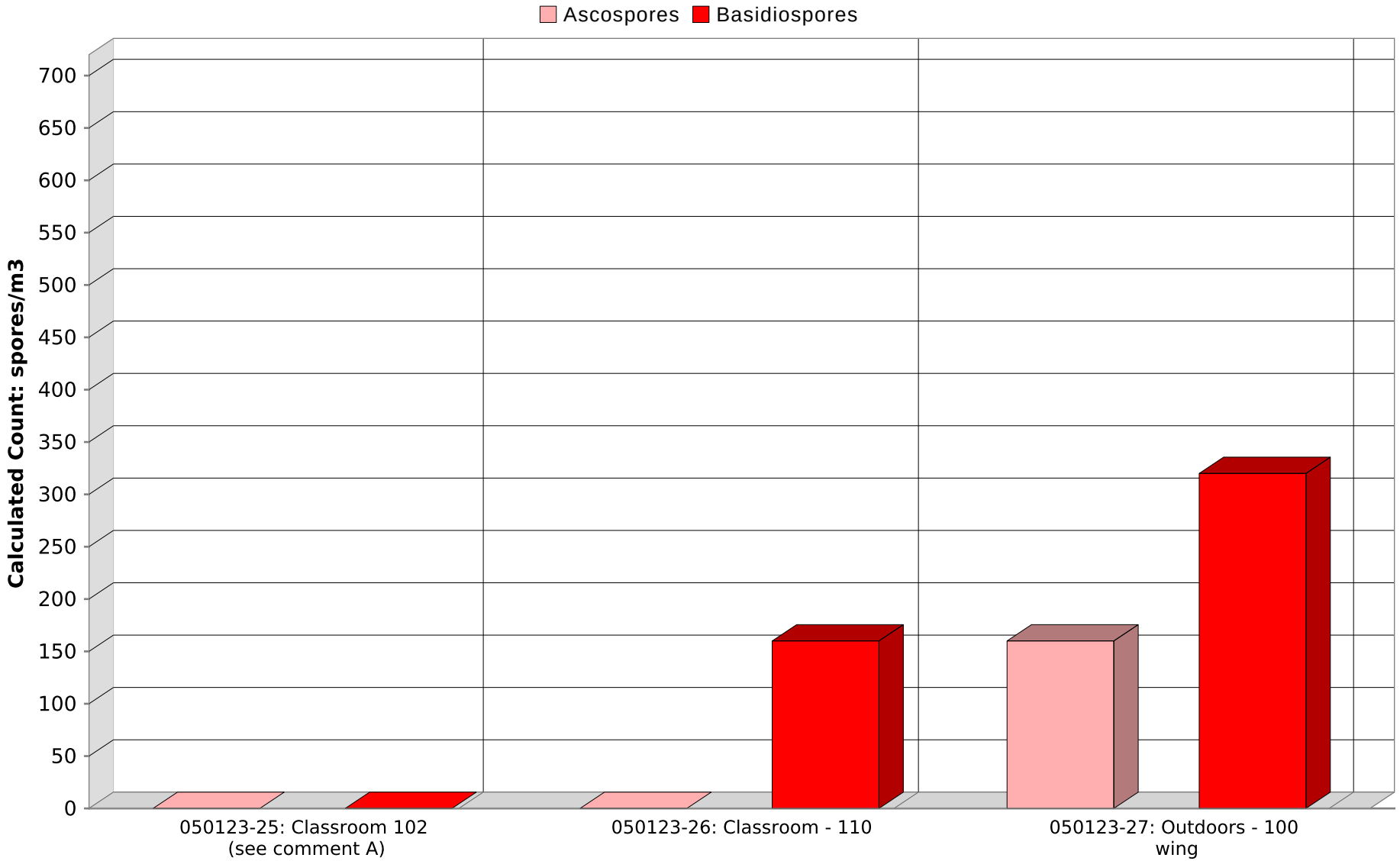
SPORE TRAP REPORT: NON-VIABLE METHODOLOGY



Comments: A) No spores detected.

Note: Graphical output may understate the importance of certain "marker" genera.

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Phoenix, AZ: 1501 West Knudsen drive, Phoenix, AZ 85027 * (800) 651-4802
San Bruno, CA: 1150 Bayhill Drive, #100, San Bruno, CA 94066 * (866) 856-8553

Weather		Fog	Rain	Snow	Wind	Clear
Level	None	☐	☐	☐	☐	☐
	Light	☐	☒	☐	☐	
	Moderate	☐	☐	☐	☐	
	Heavy	☐	☐	☐	☐	

Non-Culturable

00324881 9

CONTACT INFORMATION

Company:	Ramboll	Address:	333 w. Wacker Drive, Suite 2700, Chicago, IL
Contact:	Scott Fountain	Special Instructions:	send results to: sfountain@ramboll.com
Phone:	309-287-1847		

PROJECT INFORMATION

Project ID:	1650030209-001		
Project Description:			
Project Zip Code:		Sampling Date & Time:	5/1/23
PO Number:		Sampled By:	SF

TURN AROUND TIME CODES (TAT)

STD – Standard (DEFAULT)
ND – Next Business Day
SD – Same Business Day Rush
WH – Weekend / Holiday

Rushes received after 2 pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume / Area (as applicable)	Notes (Time of day, Temp, RH, etc.)
050123-01	Outdoors - Woodland main Entrance	ST	STD	50 Liters	42°F
050123-02	Room Classroom 708	ST	STD	50 L	
050123-03	Classroom 714	ST	STD	50L	
050123-04	Class Room 804	ST	STD	50L	
050123-05	Classroom 818	ST	STD	50L	
050123-06	Classroom ~~818~~ 814 see 01	ST	STD	50L	
050123-07	Classroom 816	ST	STD	50L	
050123-08	Classroom 812	ST	STD	50L	
050123-09	Outdoors - 800 wing	ST	STD	50 L	48.2°
050123-10	Classroom 600	ST	STD	50 L	
050123-11	Classroom 612	ST	STD	50 L	

Spore Trap		T Strai Bulk		Water, Bulk, Dust, Soil, Other												Other Requests			
Fungi – Spore Trap Analysis	Spore Trap Analysis – Other particles	Direct Microscopic Exam (Qualitative)	Quantitative Spore Count Direct Exam	1-Media Surface Fungi (Genus ID + Asp. spp.)	2-Media Surface Fungi (Genus ID + Asp. spp.)	3-Media Surface Fungi (Genus ID + Asp. spp.)	Culturable Air Fungi (Genus ID + Asp. spp.)	Gram Stain & Counts (Culturable Air & Surface Bacteria)	Legionella culture	Total Coliform, E. coli (Presence/Absence)	Membrane Filtration (specify organism):	MPN Bacteria (specify organism):	QuantiTray – Sewage Screen	Asbestos Analysis – PCM Airborne Fiber Count (NIOSH 7400)	Asbestos Analysis – PLM (EPA method 600/R-93-116)	PCR (specify test):			
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SAMPLE TYPE CODES			
BC – BioCassette ™	ST – Spore Trap: Zefon, Allergenco, Burkard ...	T – Tape.	D – Dust
AIS – Anderson		SW – Swab	SO – Soil
SAS – Surface Air Sampler	P – Potable Water	B – Bulk	
CP – Contact Plate	NP – Non-Potable Water	O – Other:	

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
[signature]	5/1/23	[signature] 5/3/23	
		FA 9:45	

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San Bruno, CA: 1150 Bayhill Drive, #100, San Bruno, CA 94066 * (866) 888-6653

Weather		Fog	Rain	Snow	Wind	Clear
Level	None	☐	☐	☐	☐	☐
	Light	☐	☑	☐	☐	
	Moderate	☐	☐	☐	☐	
	Heavy	☐	☐	☐	☐	

003248819

CONTACT INFORMATION

Company:	Ramboll	Address:	333 W Wacker Drive, Suite 2700, Chicago, IL
Contact:	Scott Fountain	Special Instructions:	
Phone:	309-287-1397		

PROJECT INFORMATION

Project ID:	1690030809-001		
Project Description:			
Project Zip Code:		Sampling Date & Time:	5/1/23
PO Number:		Sampled By:	SF

TURN AROUND TIME CODES (TAT)

STD – Standard (DEFAULT)
ND – Next Business Day
SD – Same Business Day Rush
WH – Weekend / Holiday

Rushes received after 2 pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume / Area (as applicable)	Notes (Time of day, Temp, RH, etc.)
050123-12	Learning Center 511	ST	STD	50 Liters	
050123-13	Classroom 504	ST	STD	50L	
050123-14	Middle School Cafeteria	ST	STD	50L	
050123-15	Band Room 402	ST	STD	50L	
050123-16	Middle School Gym	ST	STD	50L	
050123-17	Middle School Conditioning Gym	ST	STD	50L	
050123-18	Elementary school Gym (South)	ST	STD	50L	
050123-19	Elementary school Gym (north)	ST	STD	50L	
050123-20	General Music 300	ST	STD	50L	
050123-21	Learning Center 319	ST	STD	50L	
050123-22	Outdoors - 200 wing	ST	STD	50L	50.8° F

| Non-Culturable | | |

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San Bruno, CA: 1150 Bayhill Drive, #100, San Bruno, CA 94066 * (866) 888-6853

Weather	Fog	Rain	Snow	Wind	Clear
Level: None	☐	☐	☐	☐	☐
Light	☐	☑	☐	☐	
Moderate	☐	☐	☐	☐	
Heavy	☐	☐	☐	☐	

00324881 9

CONTACT INFORMATION

Company:	Rendell	Address:	333 W. Wacker, Suite 2700, Chicago, IL
Contact:	Scott Fountain	Special Instructions:	
Phone:	309-287-1397		

PROJECT INFORMATION

Project ID:	Impo220209-001		
Project Description:			
Project Zip Code:		Sampling Date & Time:	5/1/23
PO Number:		Sampled By:	SF

TURN AROUND TIME CODES (TAT)

STD – Standard (DEFAULT)
ND – Next Business Day
SD – Same Business Day Rush
WH – Weekend / Holiday

Rushes received after 2 pm or on weekends, will be considered received the next business day. Please alert us in advance of weekend analysis needs.

Sample ID	Description	Sample Type (Below)	TAT (Above)	Total Volume / Area (as applicable)	Notes (Time of day, Temp, RH, etc.)
* 050123-23	Classroom 210	ST	STD	50L/liter	
050123-24	Classroom 220	ST	STD	50L	
* 050123-25	classroom 102	ST	STD	50L	
050123-26	Classroom - 110	ST	STD	50L	
* 050123-27	Outdoors - 100 ceiling	ST	STD	50L	48.8°F

Non-Culturable: Spore Trap | Tape Swab Bulk

Fungi – Spore Trap Analysis	Spore Trap Analysis – Other particles	Direct Microscopic Exam (Qualitative)	Quantitative Spore Count Direct Exam	1-Media Surface Fungi (Genus ID + Asp. spp.)	2-Media Surface Fungi (Genus ID + Asp. spp.)	3-Media Surface Fungi (Genus ID + Asp. spp.)	Culturable Air Fungi (Genus ID + Asp. spp.)	Gram Stain & Counts (Culturable Air & Surface Bacteria)	Legionella culture	Total Coliform, E. coli (Presence/Absence)	Membrane Filtration (specify organism):	MPN Bacteria (specify organism):	QuantiTray – Sewage Screen	Asbestos Analysis – PCM Airborne Fiber Count (NIOSH 7400)	Asbestos Analysis – PLM (EPA method 600/R-93-116)	PCR (specify test):	Other Requests
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SAMPLE TYPE CODES

BC – BioCassette ™	ST – Spore Trap: Zefon, Allergenco, Burkard ...	T – Tape	D – Dust
AIS – Anderson	P – Potable Water	SW – Swab	SO – Soil
SAS – Surface Air Sampler	NP – Non-Potable Water	B – Bulk	
CP – Contact Plate		O – Other:	

RELINQUISHED BY	DATE & TIME	RECEIVED BY	DATE & TIME
	5/1/23	[illegible] 5/3/23	
		Fx 9:45	

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APPENDIX D
CALIBRATION CERTIFICATE

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1806 South Highland Avenue, Clearwater, FL 33756, USA
PH: 727-584-5063, Toll Free: 888-873-2443
Website: https://cihequipment.com

CERTIFICATE OF CALIBRATION

Certificate No. : UNTL/04270/22

Calibrated Date: 09-01-2022

Customer Name & Address	: Ramboll 333 West Wacker Drive Suite. 2700 Chicago, IL 60606	Date of Issue	: 09-01-2022
Received Date	: 08-30-2022	Type	: 00 Multi-Functional Devices
Calibration Due on (As requested by the customer)	: 09-01-2023	Manufacturer	: TSI
Location	: At Lab	Model Number	: 7575-X
Data Type	: As Left	Serial Number	: 7575X1231009

Work Procedure: 0000h: Multi-Functional

Reference Equipment(s) used:

Equipment Name	Serial No.	Traceability	Certificate No.	Calibration Due Date
Digital Barometer	192028609		1694796	04-19-2023

Traceability Statement:

CIH Equipment Company Inc. certifies that the instrument listed above meets or exceeds manufacturing tolerance limits as stated in the referenced test procedure (unless otherwise noted). This instrument has been calibrated using standards with accuracies traceable to the National Institute of Standards and Technology. CIH Equipment Company Inc. calibration system is A2LA accredited to ISO/IEC 17025-2017, ANSI/NCSL Z540-1-1994. This report may not be reproduced, except in full, without the written approval CIH Equipment Company Inc. This calibration was done by comparing the unit under test to the listed calibration standards, there was no sampling used in this calibration. The result reported herein apply only to the calibration of the items described above and no limitations of use apply to the calibration unit. A PASS (in tolerance) or FAIL (out of tolerance) result indicates all measured values fall within or outside unmodified limits. The statement of compliance does not take the reported measurement uncertainty into account. In addition, reported uncertainties do not include instabilities due to transportation, usage, passage of time etc.

Technician Name :
Robert Backus

Approved By :
Rick Whitmer

CIH Equipment Company, Inc.

CIH Equipment Company Inc

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CERTIFICATE OF CALIBRATION

Certificate No. : UNTL/04270/22

Calibrated Date: 09-01-2022

Calibration Results (As Left)

Pressure Calibration Data

Ambient Temperature (°F) : 77
Ambient Relative Humidity (%RH) : 51
Ambient Barometric Pressure (in.Hg) : 30.01
Tolerance (Barometric Pressure) : 2.0% of Reference Value
Unit of Measurement (Barometric Pressure) : in.Hg

Description	Reference Data	Measured Data	Error (%)	Result
Barometric Pressure	30.01	30.01	0	Pass

CIH Equipment Company Inc

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CERTIFICATE OF CALIBRATION

Certificate No. : UNTL/04267/22

Calibrated Date: 09-01-2022

Customer Name & Address	: Ramboll 333 West Wacker Drive Suite. 2700 Chicago, IL 60606	Date of Issue	: 09-01-2022
Received Date	: 08-30-2022	Type	: 00 Multi-Functional Devices
Calibration Due on (As requested by the customer)	: 09-01-2023	Manufacturer	: TSI
Location	: At Lab	Model Number	: 982
Data Type	: As Left	Serial Number	: P12300079

Work Procedure: 0000h: Multi-Functional

Reference Equipment(s) used:

Equipment Name	Serial No.	Traceability	Certificate No.	Calibration Due Date
Temperature and RH Meter	H2920123		220324-HMT333-H2920123	03-24-2023
Calibration Gas	Lot# 21-8347			04-01-2026
Calibration Gas	Lot #21-7856			04-01-2026
Calibration Gas	Lot #22-8804			07-11-2026

Traceability Statement:

CIH Equipment Company Inc. certifies that the instrument listed above meets or exceeds manufacturing tolerance limits as stated in the referenced test procedure (unless otherwise noted). This instrument has been calibrated using standards with accuracies traceable to the National Institute of Standards and Technology. CIH Equipment Company Inc. calibration system is A2LA accredited to ISO/IEC 17025-2017, ANSI/NCSL Z540-1-1994. This report may not be reproduced, except in full, without the written approval CIH Equipment Company Inc. This calibration was done by comparing the unit under test to the listed calibration standards, there was no sampling used in this calibration. The result reported herein apply only to the calibration of the items described above and no limitations of use apply to the calibration unit. A PASS (in tolerance) or FAIL (out of tolerance) result indicates all measured values fall within or outside unmodified limits. The statement of compliance does not take the reported measurement uncertainty into account. In addition, reported uncertainties do not include instabilities due to transportation, usage, passage of time etc.

Technician Name :
Robert Backus

Approved By :
Rick Whitmer

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CERTIFICATE OF CALIBRATION

Certificate No. : UNTL/04267/22

Calibrated Date: 09-01-2022

Calibration Results (As Left)

Relative Humidity Calibration Data

Ambient Temperature (°F) : 77
Ambient Relative Humidity (%RH) : 51
Ambient Barometric Pressure (in.Hg) : 29.98
Tolerance : 3.0%RH
Unit of Measurement : %RH

Reference Data	Measured Data	Error (%)	Result
35.4	37.6	6.21	Pass
49.9	49.9	0	Pass

Gas Calibration Data

Ambient Temperature (°F) : 77
Ambient Relative Humidity (%RH) : 51
Ambient Barometric Pressure (in.Hg) : 29.98

Gas Type	Tolerance (%)	Reference Data	Measured Data	Error (%)	Result
Carbon Monoxide [CO]	3	100	100	0	Pass
Carbon Dioxide [CO2]	3	1000	1000	0	Pass

Temperature Calibration Data

Ambient Temperature (°F) : 77
Ambient Relative Humidity (%RH) : 51
Ambient Barometric Pressure (in.Hg) : 29.98
Tolerance : 0.5°F
Unit of Measurement : °F

Description	Reference Data	Measured Data	Error (%)	Result
T1 Input	59.8	60	0.33	Pass
T1 Input	79.9	80.3	0.50	Pass
T1 Input	99.35	99.75	0.40	Pass