A-Tech Consulting, Inc.

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LIMITED INDOOR AIR QUALITY ASSESSMENT

Longfellow Elementary School

245 West 10th Street

City of Azusa
County of Los Angeles
State of California

Project Number: Atch-211876

August 5, 2021

PREPARED FOR:

Azusa Unified School District

PRIVILEGED & CONFIDENTIAL

Cover

INDOOR AIR QUALITY

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Atch-211876
Limited Indoor Air Quality Assessment
245 West 10th Street
Azusa, California 91702

August 5, 2021

Azusa Unified School District
546 South Citrus Avenue
Azusa, California 91702

Attn: Mr. Brian Allen

Re: Longfellow Elementary School
245 West 10th Street, Various Areas
Azusa, California 91702

Pursuant to your request, A-Tech Consulting, Inc. has completed a Limited Indoor Air Quality (IAQ) Assessment in various areas of Longfellow Elementary School located at 245 West 10th Street, in Azusa, California. The following report summarizes the findings of this assessment.

1.0 BACKGROUND

On June 29, 2021, Industrial Hygiene Technician Krizia Kolakowski, under the supervision of Certified Industrial Hygienist (CIH) Roosevelt Ward with A-Tech Consulting, Inc. performed a Limited Indoor Air Quality (IAQ) Assessment in various areas of the subject site. This assessment was performed due to concerns raised by occupants of Longfellow Elementary School regarding poor indoor air quality. These concerns were limited to the fourteen (14) areas surveyed during this assessment: Classrooms 1 through 12, the Library, and the Computer Lab.

At the time of the assessment, the areas were inspected and samples were collected to assess a) inside temperature and relative humidity as indicators of comfort, b) carbon dioxide levels as indicator of air flow, c) carbon monoxide, d) HVAC filtration efficiency and e) fungal spore exposure in the work areas to determine the IAQ impact in the various areas of concern. This IAQ assessment was performed in accordance with the scope of services authorized by Mr. Brian Allen with the Azusa Unified School District.

4.0 METHODOLOGY

As a precautionary measure, sampling of relative humidity (RH), temperature (T), carbon dioxide (CO_2), carbon monoxide (CO), particle distribution and airborne fungal distribution was performed at the subject site to ensure that levels are within acceptable parameters for occupancy.

Continuous datalogged sampling was performed at stationary locations at approximate breathing zone height. The following table details the parameters monitored, sampling intervals and sampling durations of the two (2) continuous datalogging units used in this assessment:

Unit	Parameter(s)	Interval (seconds)	Sampling Duration (min)
TSI 7545 IAQCalc	Temperature Relative Humidity CO_2 CO	5	10
ThermoScientific pDR1500	Aerosols	60	10

In addition, exterior continuous measurements were taken by each instrument upwind of the building or by HVAC exterior air intakes, for comparison.

2.1 Carbon Dioxide (CO_2), Carbon Monoxide (CO), Air Temperature and Relative Humidity

Carbon dioxide (CO_2), carbon monoxide (CO), air temperature and relative humidity were recorded using a TSI Model 7545 IAQCalc unit. Calibration on the IAQCalc unit was performed on December 21, 2020. Measurement ranges, accuracy and resolution for CO_2, CO, air temperature and relative humidity can be found in the following table.

Parameter	Range	Accuracy	Resolution
Carbon Dioxide (CO_2)	0 to 5,000 ppm	±3% or ±50ppm (whichever is greater)	1 ppm
Carbon Monoxide (CO)	0 to 500 ppm	±3% or ±3ppm (whichever is greater)	0.1 ppm
Air Temperature	32 to 140°F	±1.0°F	0.1° F
Relative Humidity	5.0 to 95.0%	±3.0%	0.1%

The results can be found on the attached tables. Carbon dioxide and carbon monoxide levels are reported in parts per million (ppm), air temperature in degrees Fahrenheit (°F) and relative humidity in percentages (%).

2.2 Aerosol Particle Concentration

Aerosol particle (respirable dust <4.0 µm in diameter) concentration was measured using a ThermoScientific pDR-1500 unit, along with an aluminum respirable dust cyclone. Calibration on the pDR-1500 unit was performed on December 7, 2020. Measurement range, accuracy and resolution for the aerosol monitor of the pDR1500 unit can be found in the following table.

Parameter	Range	Accuracy	Resolution
Aerosol	0.001 to 400 mg/m^3	±5%	0.01 $\mu g/m^3$

The results can be found on the attached tables. Aerosol concentration levels are reported in micrograms per cubic meter ($\mu g/m^3$).

2.3 Non-Viable Mold Air Sampling

Air sampling was performed inside and outside of the subject building to characterize mold spore levels. The air sampling was performed using Air-O-Cell cassettes. High air volume air pump (Buck BioAire™ Bioaerosol sampling pump) was used to pull air through the cassettes for five (interior) to ten (exterior) minutes at flow rates of approximately 15 L/min. The cassette pump air sampling trains were calibrated before and after each use against a rotameter.

The sixteen (16) air samples were collected and submitted using chain-of-custody procedures to AIH Laboratory located at 2556 W. Woodland Drive, Anaheim, California 92801 for analysis of mold spores. This analytical method gives measured airborne levels of total (non-viable) mold spores in units of spores per cubic meter of air (spores/m^3). This laboratory has been certified in environmental microbiology by the Laboratory Accreditation Program administered by the American Industrial Hygiene Association (AIHA) lab code #LAP-203769.

2.0 DISCUSSION

3.1 Indoor Air Quality

The substances sampled are commonly known indoor air quality contaminants of concern in nonindustrial environments. Currently, there are no regulations pertaining to indoor air quality. However, the limits recommended by ASHRAE (American Society of Heating, Refrigerating, and Air Conditioning Engineers), National Institute for Occupational Safety and Health (NIOSH), Cal-OSHA (California Occupation Safety and Health Administration), Regional Exposure Levels (REL) as established by the California Office of Environmental Health Hazard Assessment (OEHHA), California Ambient Air Quality Standard (CAAQS), Regional Screening Levels (RSLs) as established by the Environmental Protection Agency (EPA) and LEED (Leadership in Energy and Environmental Design) are used for the evaluations of IAQ concerns. Keep in mind, concentrations that are within the recommended limits does not ensure freedom from sensory irritation or from all adverse health effects for all occupants.

3.2 Mold

Currently, there are no regulations or guidelines that quantify acceptable or unacceptable levels of mold spore content in the air or on surfaces for either total mold spore count or mold spore count for individual genre. The current general industry standard of mold content in air samples states that "typically mold levels should be lower indoors than outdoors and similar in diversity of genera". In cases where the exterior samples are abnormally low or high for mold content (typical instances include where a day can be windy, raining or there is snow cover) the Certified Indoor Environmental Consultant (CIEC) reviews each sample analysis by genre and overall mold content and makes final determination of potential mold exposure and activity.

When collecting fungal species and spore counts there are no set exposure limits for the safe number of spores from a particular genus or species. Common practice is to compare the species and spore counts of the air samples collected indoors to those collected outdoors. All indoor air will contain some degree of mold with variations in species and spore counts. For indoor air quality to be considered “normal” the species present in the indoor air should be similar to those found in the exterior ambient air. There are two ways to interpret mold data.

1. The first is to compare the total spores per cubic meter (spores/m^3) reported from the interior to the total spores/m^3 reported from the exterior. The total interior spore count should not exceed the total exterior spore count concentration by any excessive magnitudes.

2. The second is to compare the concentration of each spore type in exterior air to the indoor air samples. Each spore type should not exceed the exterior result for that genus/species of mold. In buildings without mold problems, the qualitative diversity of interior and exterior airborne fungi should be similar.

If remedial recommendations are provided, they will be based on a combined analysis of data including but not limited to, a review of the air and surface analytical results (as applicable), review of on-site conditions including building use, building history, moisture/water intrusion activity, visible water damage and/or mold conditions, length of water exposure, occupant health related symptoms (as applicable), and any other information obtained during the assessment combined with historical professional experience with similar projects. Fungal spores are present in almost all environments and do not proliferate indoors unless environmental requirements exist. Fungal activity varies by genre, with differing needs for light, dampness, consumables (building materials, food), and temperature. In general, fungi require air, moisture content above 15%, and cellulose-based materials such as wood, glue, paper products (drywall backing), carpet, clothing, etc.

3.0 ANALYTICAL RESULTS

4.1 Air Flow and Carbon Dioxide (CO_2) Levels

The National Institute for Occupational Safety and Health (NIOSH) has determined that the most common of indoor air quality complaints are related to inadequate ventilation. Building Heating, Ventilation and Air Conditioning (HVAC) systems need to function properly in order to control temperature, humidity, odor, and general air quality. Carbon dioxide levels are an indicator on whether adequate outside air is entering the building because building occupants produce carbon dioxide, water vapor, particulates, biological aerosols, and other contaminants during metabolic activities. CO_2 concentrations increase as a result of human occupancy and the lower the amount of outside air entering the room, the higher the CO_2 levels indoors.

The American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE) Standard 62.1-2016: Ventilation for Acceptable Indoor Air Quality recommends that indoor CO_2 concentrations no greater than 700 parts per million (ppm) above exterior CO_2 concentrations will satisfy a substantial majority (about 80%) of occupants (assuming exterior supply rate of 15 cfm/person). Thus, to determine if CO_2 levels are a concern, a CO_2 differential is calculated by subtracting the average

For all surveyed interior areas of concern, the average indoor carbon dioxide (CO_2) levels did not exceed the carbon dioxide concentration of the exterior control sample by more than 700 ppm. This indicates that indoor air quality concerns related to carbon dioxide are unlikely to exist in the areas inspected/tested. Please refer to the attached table (Appendix A) for detailed information on the sample results.

4.2 Air Temperature

Based on the experience of A-Tech Consulting, Inc., the air temperatures perceived as comfortable by most persons in interior environments and recommended by ASHRAE (Standard 55-2017) for occupant comfort, range between 67˚ and 82˚F.

For all surveyed interior areas of concern, the average air temperatures recorded **were within** the ASHRAE recommended comfort ranges. This indicates that indoor air quality concerns related to temperature are unlikely to exist in the areas inspected/tested. Please refer to the attached table (Appendix A) for detailed information on the sample results.

4.3 Relative Humidity

For all surveyed interior areas of concern, recorded average relative humidity levels **were within** the 20 - 65 percent relative humidity range recommended by ASHRAE (Standard 62.1-2016) for occupant comfort. This indicates that indoor air quality concerns related to humidity are unlikely to exist in the areas inspected/tested. Please refer to the attached table (Appendix A) for detailed information on the sample results. Note that A-Tech Consulting, Inc. recommends that the relative humidity in buildings not exceed 50 percent in order to limit the potential for fungal growth.

4.4 Airborne Toxic, Flammable and Combustion Product Measurements (CO)

Carbon Monoxide is an indicator of a combustion by-product and is measured to confirm that no combustion sources are contained within, or are immediately adjacent to, the facility. It is frequently associated with headaches. Notable combustion sources include natural gas-fired furnaces, boilers, water heaters, cooking stoves or unvented combustion appliances as well as vehicular traffic, including all types of fossil-fueled industrial trucks. Depending on fuel sources present in interior locations, levels of carbon monoxide are normally less than exterior levels, unless a significant interior source exists. The Cal-OSHA 8-hour time weighted average Permissible Exposure Limit (PEL) for carbon monoxide is **25 ppm**. The OEHHA Regional Exposure Level (REL) for carbon monoxide is 31.2 ppm.

For all surveyed interior areas of concern, carbon monoxide was not detected, or was detected at low levels. These levels are **below** the Cal-OSHA PEL of **25 ppm** (8-hour time weighted average) and are less than common indoor levels (<4 ppm). This indicates that indoor air quality concerns related to carbon monoxide are unlikely to exist in the areas inspected/tested. Please refer to the attached table (Appendix A) for detailed information on the sample results.

4.5 Airborne Particle Concentration

A mass concentration aerosol monitor was used to determine the air quality by quantifying the concentration of particles in the air. Inhalable airborne particulate matter (PM2.5) is defined by the EPA as fine particulate matter with aerodynamic diameters of 2.5µm or smaller. Ultrafine Particles (particles with aerodynamic diameters less than 1 µm) are the result of combustion by-products or chemical reactions, which can help indicate the presence of a substance or its source. Though there is no standard for airborne ultra-fine particles, it is expected to find lower amounts of particles interior versus exterior, due to the Heating Ventilation and Air Conditioning (HVAC) filtering mechanism.

There are currently no Federal government standards for PM2.5 in indoor air environments. However, the Cal-OSHA 8-Hour Time Weighted Average Permissible Exposure Limits for total dust and the respirable

For all surveyed interior areas of concern, the results of the continuous sampling indicated that average respirable particle concentrations **were lower** than 5 mg/m^3 (5,000 $\mu g/m^3$), indicating an efficient HVAC filtering system. Please refer to the attached table (Appendix B) for detailed information on the sample results.

4.6 Non-Viable Mold Air Sampling

Results for fungal air sampling are reported as spores per cubic meter (spores/m^3), per industrial genre is identified. The individual results are then totaled into total spores per cubic meter (spores/m^3). To determine if mold proliferation exists, counts of indicator spores are compared to counts present in the outdoor, exterior environments.

A total of sixteen (16) mold air samples were obtained during this assessment, including two (2) exterior samples. It was determined that one (1) interior sample had slightly elevated levels of fungal growth. Spore counts presented in blue were spores found in the subject location but were not present in the control sample. Spore counts presented in red are higher than what was found in the control sample(s) and are considered elevated for the area tested.

Following the direct microscopic examination of the air samples obtained, the exterior samples and interior samples with elevated fungal counts are outlined as follows:

Sample Number	Room/Area	Prominent Mold - Genre Level (spores/m^3)	Total Mold Spores (spores/m^3)
211876-MA-0001	Exterior	Aspergillus/Penicillium - 920 Cladosporium - 1,100 Chaetomium - 0 Ascospores - 80 Basidiospores - 120 Periconia, Myxomycetes, Smuts - 20	2,340*
211876-MA-0015	Computer Lab	Aspergillus/Penicillium - 1,360 Cladosporium - 520 Chaetomium - 40 Ascospores - 40 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 120	2,120
211876-MA-0016	Exterior	Aspergillus/Penicillium - 100 Cladosporium - 400 Chaetomium - 20 Ascospores - 40 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 60	720*

***Note:** Total mold spore count reflects all genres detected in the exterior sample, including the genres not detected in the interior sample(s) obtained.

These results indicate elevated fungal counts in some interior areas compared to the exterior as noted in the above table. Interior mold air sample are considered elevated if the sample has both:

1. An interior mold genre count 20% greater than exterior levels, and
2. An interior mold genre count greater than 300 spores/m^3

Aspergillus

Aspergillus is a common fungus found indoors and outdoors. Most people breathe in *Aspergillus* spores daily without experiencing any health concerns. However, immunocompromised individuals or those with lung diseases are at higher risk for developing health problems due to exposure to high levels of *Aspergillus.*

Penicillium

Penicillium is a commonly detected mold genre found in soil, food, cellulose and grains. Some *Penicillium* species can produce mycotoxins. Prolonged exposure may lead to asthma and allergic reactions in sensitive individuals.

All fungal spore counts detected in the remaining interior samples were lower than the exterior control samples. Please refer to the attached Mold Air Sample Summary table (Appendix C) for detailed information on the sample results.

4.0 CONCLUSIONS

Based on this assessment and analytical data, it is A-Tech Consulting, Inc.'s professional opinion at the time of this assessment that there is one (1) area of improvement in air quality in the assessed survey site.

Mold

Based on this limited industrial hygiene investigation for fungal activity and analytical results, elevated airborne fungal counts were present in the following interior area(s) when compared to the exterior:

- Computer Lab

Elevated interior mold levels could have originated from two sources:

- An indoor source such as moisture from high cellulose content material that was a result from water damage, water leaks, condensation, water infiltration, or flooding.

- An outdoor source that was inadvertently brought into the interior by occupants' shoes and clothing, house plants, trash, or method of transference the outdoors to the indoor space.

Based on this assessment and analytical data, it is A-Tech Consulting, Inc.'s professional opinion that at the time of the assessment, all remaining parameters sampled for indoor air quality were below or within acceptable limits. Following are the conclusions for these parameters:

- Temperature and relative humidity levels **were within** the recommended American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) standard recommended ranges.

- Elevated levels of carbon monoxide **were not** detected by the continuous monitoring instrument utilized during this assessment.

- Carbon dioxide concentrations **were within** the recommended ranges, based on building occupancy.

- Particulate levels monitored indicate concentrations **less than** typical ambient exterior concentrations, and **less than** comparable Environmental Exposure Limits or Occupation Exposure Limits.

6.0 RECOMMENDATIONS

Based on the conditions at the time of the inspection and the analytical results, A-Tech submits the following recommendations for preventing and minimizing indoor air quality problems in the surveyed areas of concern:

1. In the interior area(s) of concern where elevated airborne fungal counts were present when compared to the exterior:
    a. Perform additional housekeeping of the carpets or flooring, ventilation grills, and other exposed non-porous surfaces, such as shelving, desks, and tables. This could include vacuuming or wiping down any surfaces.
    b. Perform air-scrubbing with HEPA filtration for 24 hours.
    c. Remove any potential interior sources of mold such as house plants, trash, or soil.
    d. After recommendations are completed, perform additional air monitoring of the spaces for mold.

If occupant concerns about indoor air quality persist, then it is recommended to increase the ventilation within the areas of concern. The HVAC systems that service the areas of concern should be regularly maintained and inspected to reduce the risk of air quality concerns. It is also recommended to check the HVAC filters to ensure that they are properly maintained and changed out according to the appropriate preventative maintenance schedule.

7.0 DEFINTIONS

A) AIHA – The American Industrial Hygiene Association is a non-profit organization that works to provide resources and information to occupational health professionals to better protect worker health.

B) ASHRAE – The American Society of Heating and Air-Conditioning Engineers is a global professional association seeking to advance heating, ventilation, air conditioning and refrigeration systems design and construction.

C) Bioaerosols – A general term for particles of biological origins such as microbes, airborne organisms, and/or viable pathogenic aerosols.

D) Cal-OSHA – The Division of Occupational Safety and Health (DOSH), better known as Cal-OSHA, protects and improves the health and safety of working men and women in California.

E) EPA – The Environmental Protection Agency is an independent agency of the United States federal government for environmental protection.

F) HVAC – refers to the different systems such as heating, ventilation and air conditioning which is used for moving air between indoor and exterior areas, along with heating and cooling both residential and commercial buildings.

G) Indoor Air Quality Pollutants – refers to the air quality within and around building and structures, especially as it relates to the health and comfort of building occupants. Some of the common pollutants are carbon monoxide, formaldehyde, indoor particulate matter, volatile organic compounds, VOCs, radon, and biological contaminants such as dust, mites, and pollen.

H) Optical Microscopy – Techniques used to magnify images of samples using visible light, often paired with illumination of the sample with polarized and reflected light.

I) Particulate Matter (PM10 and PM 2.5) – PM10 is particulate matter 10 micrometers or less in diameter, PM 2.5 is particulate matter of 2.5 micrometers or less in diameter.

J) Relative Humidity – The ratio of the amount of water vapor actually present in the air to the greatest amount possible at the same temperature.

K) Volatile Organic Compounds (VOCs) – Emitted gasses from certain solids or liquids. VOCs include a variety of chemicals, some which may have short -and long-term adverse health effects.

8.0 LIMITATIONS

Keep in mind, the conclusions presented in this report are professional opinions based solely upon visual observations at the site and direct reading measurements, for the timeframe tested. They are intended exclusively for the purpose outlined herein, and for the site location and project indicated.

This report is intended for the sole use of the contracted client. The use or re-use of this document or the findings, conclusion or recommendations presented herein, by any other party or parties, is at the sole risk of said user.

Recognizing that even the most comprehensive inspection may fail to detect IAQ concerns at a particular site, this study was not intended to identify all potential IAQ pollutants present in the building or at the site for such reasons as (1) the possible existence of buried, covered and inaccessible areas and features; and (2) the limited number and type of samples collected.

No guarantee is expressed or implied that all IAQ concerns have been identified. A-Tech Consulting, Inc. assumes no responsibility for the identification of suspect and potential IAQ pollutants, which are concealed and/or inaccessible (i.e. locked rooms, etc.).

Services performed by A-Tech Consulting, Inc. were performed in a manner consistent with that of the care and skill ordinarily and currently exercised by members of the same profession that even the most comprehensive Scope of Services might fail to detect environmental liabilities on a particular site. Therefore, A-Tech Consulting, Inc. cannot act as insurers and cannot "certify" that a site is free of IAQ pollutant concentrations.

No expressed or implied representation or warranty is included or intended in our reports, except that our services were performed, within the limits prescribed by the scope of services, with the customary thoroughness and competence of our profession.

Information and opinions presented herein apply to the existing and reasonable foreseeable site conditions at the time of our investigation. They cannot necessarily apply to site changes of which this office is unaware and has not had the opportunity to review.

Changes in the conditions of this property may occur with time due to natural processes or works of man on the subject property or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond our control.

A-Tech Consulting, Inc. trusts that the information presented herein provides the data you require. Should you have any questions or comments, please contact A-Tech Consulting, Inc.

Respectfully submitted,

A-TECH CONSULTING, INC.

Roosevelt Ward, CIH, CSP, QISP

CIH 11208 CP

A-Tech Consulting, Inc.

Continuous Air Temperature, Humidity, Carbon Dioxide and Carbon Monoxide Monitoring Measurements (TSI 7545 IAQCalc)

Client Name: Azusa Unified School District **A-Tech Project Number:** 211876

Location: Longfellow Elementary School, 145 West 10th Street

Sample Number	Start Time	End Time	Duration (min)	Sample Location	CO2 Concentration (ppm)			CO Concentration (ppm)		Temperature (°F)			Humidity (%)		
					Min.	Max.	Average	Max.	Average	Min.	Max.	Average	Min.	Max.	Average
211876-I-0001	8:32 AM	8:43 AM	11	Classroom 1	437	492	456	0.3	0.0	72.5	75.2	74.4	45.3	51.6	48.0
211876-I-0002	8:45 AM	8:55 AM	10	Classroom 2	432	457	439	0.2	0.0	72.0	74.1	73.3	44.9	49.7	46.9
211876-I-0003	9:00 AM	9:10 AM	10	Classroom 3	425	482	440	0.0	0.0	69.5	72.3	70.7	46.0	53.0	50.0
211876-I-0004	9:10 AM	9:20 AM	10	Classroom 4	499	565	511	0.0	0.0	72.6	74.4	73.7	49.0	54.8	51.0
211876-I-0005	9:21 AM	9:31 AM	10	Classroom 5	428	590	455	0.5	0.1	73.7	75.5	74.8	47.1	52.1	48.5
211876-I-0006	9:33 AM	9:44 AM	11	Classroom 6	427	550	445	0.7	0.2	75.3	78	76.8	44.0	48.6	46.4
211876-I-0007	9:53 AM	10:04 AM	11	Classroom 7	422	921	449	0.9	0.1	73.0	74.9	73.8	73.0	53.2	50.7
211876-I-0008	10:06 AM	10:16 AM	10	Classroom 8	419	435	427	0.2	0.0	69.4	74.4	72.5	47.6	53.3	48.6
211876-I-0009	10:17 AM	10:27 AM	10	Classroom 9	419	432	425	0.0	0.0	70.6	74.4	73.0	46.8	52.5	48.7

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Sample Number	Start Time	End Time	Duration (min)	Sample Location	CO2 Concentration (ppm)			CO Concentration (ppm)		Temperature (°F)			Humidity (%)		
					Min.	Max.	Average	Max.	Average	Min.	Max.	Average	Min.	Max.	Average
211876-I-0010	10:35 AM	10:45 AM	10	Classroom 10	419	507	434	0.2	0.0	73.3	74.8	74.1	48.3	50.3	49.3
211876-I-0011	10:52 AM	11:02 AM	10	Classroom 11	422	445	434	0.4	0.0	70.9	73.2	72.0	47.5	51.7	50.0
211876-I-0012	11:04 AM	11:14 AM	10	Classroom 12	436	449	443	0.3	0.0	72.4	73.7	73.0	44.6	49.9	47.3
211876-I-0013	11:17 AM	11:27 AM	10	Library	464	666	480	1.0	0.1	71.8	74.8	72.9	33.5	35.5	34.9
211876-I-0014	11:27 AM	11:37 AM	10	Computer Lab	470	500	477	0.0	0.0	71.7	73	72.6	35.5	37.3	35.9

Legend:
N/A = Not Applicable

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Continuous Aerosol Monitoring Measurements (ThermoScientific pDR1500)

Client Name: Azusa Unified School District **A-Tech Project Number:** 211876

Location: Longfellow Elementary School, 245 West 10th Street

Sample Number	Start Time	End Time	Duration (min)	Sample Location	Aerosol Concentration (µg/m³)	
					Max.	Average
211876-P-0001	8:32 AM	8:43 AM	11	Classroom 1	21.62	15.00
211876-P-0002	8:45 AM	8:55 AM	10	Classroom 2	8.88	6.59
211876-P-0003	9:00 AM	9:10 AM	10	Classroom 3	10.73	9.19
211876-P-0004	9:10 AM	9:20 AM	10	Classroom 4	12.56	11.02
211876-P-0005	9:21 AM	9:31 AM	10	Classroom 5	13.51	10.11
211876-P-0006	9:33 AM	9:44 AM	11	Classroom 6	13.84	11.42
211876-P-0007	9:53 AM	10:04 AM	11	Classroom 7	14.16	12.81
211876-P-0008	10:06 AM	10:16 AM	10	Classroom 8	14.07	12.16
211876-P-0009	10:17 AM	10:27 AM	10	Classroom 9	14.62	12.55
211876-P-0010	10:35 AM	10:45 AM	10	Classroom 10	12.68	11.50

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Sample Number	Start Time	End Time	Duration (min)	Sample Location	Aerosol Concentration (µg/m^3)	
					Max.	Average
211876-P-0011	10:52 AM	11:02 AM	10	Classroom 11	14.97	14.97
211876-P-0012	11:04 AM	11:14 AM	10	Classroom 12	10.54	7.89
211876-P-0013	11:17 AM	11:27 AM	10	Library	9.18	9.17
211876-P-0014	11:28 AM	11:38 AM	10	Computer Lab	11.59	9.65

Legend:
N/A = Not Applicable

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Mold Air Sample Summary

Location: Longfellow Elementary School, 245 West 10th Street

Client Name: Azusa Unified School District

Area:

Sample Number	Sample Date & Time	Sample Location	Sample Description	Sampling Time	Liters Per Min	Temp./Humidity	Prominent Mold - Genre Level (spores/m^3)	Total Mold Spores (spores/m^3)
211876-MA-0001	6/29/2021 8:31 AM	Exterior	Ambient	10 Min.	15	73.0 °F / 62.1%	Aspergillus/Penicillium - 920 Cladosporium - 1,100 Chaetomium - 0 Alternaria - 40 Ascospores - 80 Basidiospores - 120 Bipolaris - 40 Curvularia - 0 Periconia, Myxomycetes, Smuts - 20 Miscellaneous Spores - 0	2,340*
211876-MA-0002	6/29/2021 8:40 AM	Classroom 1	Background	5 Min.	15	75.0 °F / 41.4%	Aspergillus/Penicillium - 240 Cladosporium - 360 Ascospores - 120 Curvularia - 40 Periconia, Myxomycetes, Smuts - 80	840
211876-MA-0003	6/29/2021 8:48 AM	Classroom 2	Background	5 Min.	15	74.3 °F / 41.8%	Aspergillus/Penicillium - 160 Periconia, Myxomycetes, Smuts - 40	200
211876-MA-0004	6/29/2021 9:00 AM	Classroom 3	Background	5 Min.	15	72.3 °F / 41.4%	Aspergillus/Penicillium - 120 Cladosporium - 80 Alternaria - 40 Ascospores - 40 Periconia, Myxomycetes, Smuts - 40	320

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A-Tech Consulting, Inc.

Sample Number	Sample Date & Time	Sample Location	Sample Description	Sampling Time	Liters Per Min	Temp./Humidity	Prominent Mold - Genre Level (spores/m^3)	Total Mold Spores (spores/m^3)
211876-MA-0005	6/29/2021 9:10 AM	Classroom 4	Background	5 Min.	15	73.5 °F / 49.5%	Aspergillus/Penicillium - 440 Cladosporium - 160 Basidiospores - 120 Periconia, Myxomycetes, Smuts - 80	800
211876-MA-0006	6/29/2021 9:19 AM	Classroom 5	Background	5 Min.	15	74.6 °F / 46.3%	Aspergillus/Penicillium - 80 Cladosporium - 40 Alternaria - 40 Ascospores - 40 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 40 Miscellaneous Spores - 40	320
211876-MA-0007	6/29/2021 9:29 AM	Classroom 6	Background	5 Min.	15	78.6 °F / 40.0%	Aspergillus/Penicillium - 80 Cladosporium - 80 Periconia, Myxomycetes, Smuts - 40	200
211876-MA-0008	6/29/2021 9:53 AM	Classroom 7	Background	5 Min.	15	74.6 °F / 46.9%	Aspergillus/Penicillium - 360 Cladosporium - 80 Periconia, Myxomycetes, Smuts - 80 Miscellaneous Spores - 40	560
211876-MA-0009	6/29/2021 10:08 AM	Classroom 8	Background	5 Min.	15	75.0 °F / 45.2%	Aspergillus/Penicillium - 440 Cladosporium - 40	480
211876-MA-0010	6/29/2021 10:20 AM	Classroom 9	Background	5 Min.	15	73.7 °F / 45.1%	Aspergillus/Penicillium - 240 Cladosporium - 40 Periconia, Myxomycetes, Smuts - 40	320

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A-Tech Consulting, Inc.

Sample Number	Sample Date & Time	Sample Location	Sample Description	Sampling Time	Liters Per Min	Temp./Humidity	Prominent Mold - Genre Level (spores/m^3)	Total Mold Spores (spores/m^3)
211876-MA-0011	6/29/2021 10:35 AM	Classroom 10	Background	5 Min.	15	74.4 °F / 46.2%	Aspergillus/Penicillium - 600 Cladosporium - 200 Ascospores - 160 Basidiospores - 40 Bipolaris - 40 Periconia, Myxomycetes, Smuts - 80	1,120
211876-MA-0012	6/29/2021 10:52 AM	Classroom 11	Background	5 Min.	15	72.6 °F / 43.7%	Aspergillus/Penicillium - 600 Cladosporium - 40 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 40	720
211876-MA-0013	6/29/2021 11:00 AM	Classroom 12	Background	5 Min.	15	74.6 °F / 43.5%	Aspergillus/Penicillium - 320 Cladosporium - 40 Periconia, Myxomycetes, Smuts - 40	400
211876-MA-0014	6/29/2021 11:17 AM	Library	Background	5 Min.	15	74.1 °F / 30.9%	Aspergillus/Penicillium - 640 Cladosporium - 160 Ascospores - 40 Periconia, Myxomycetes, Smuts - 40	880
211876-MA-0015	6/29/2021 11:24 AM	Computer Lab	Background	5 Min.	15	31.6 °F / 72.1%	Aspergillus/Penicillium - 1,360 Cladosporium - 520 Chaetomium - 40 Ascospores - 40 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 120	2,120

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Sample Number	Sample Date & Time	Sample Location	Sample Description	Sampling Time	Liters Per Min	Temp./Humidity	Prominent Mold - Genre Level (spores/m^3)	Total Mold Spores (spores/m^3)
211876-MA-0016	6/29/2021 11:30 AM	Exterior	Ambient	10 Min.	15	85.4 °F / 51.2%	Aspergillus/Penicillium - 100 Cladosporium - 400 Chaetomium - 20 Alternaria - 40 Ascospores - 40 Basidiospores - 40 Bipolaris - 0 Curvularia - 0 Periconia, Myxomycetes, Smuts - 60 Miscellaneous Spores - 0	720*

***Note:** Total mold spore count reflects all genres detected in the exterior sample, including the genres not detected in the interior sample obtained.

LEGEND:
(1) P = Present, NP = Not Present
(2) **RED** = Elevated Spore Concentrations of Specific Genres
(3) **BLUE** = Genre Found Inside at Low Levels but not found Outside
(4) N/A = Not Applicable

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Not to Scale

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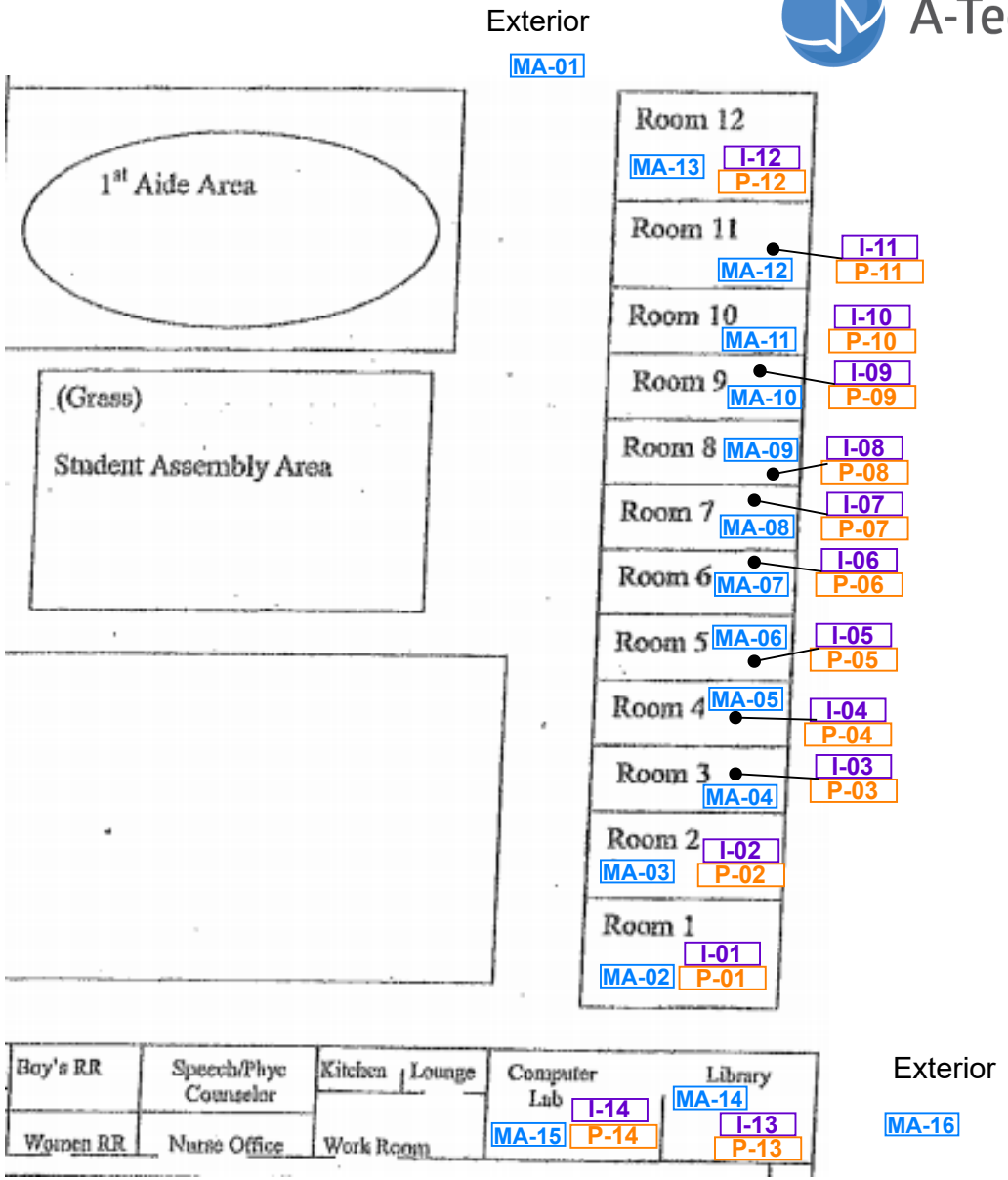

Longfellow Elementary School

Site Drawing - Indoor Air Quality - Page 1 of 1

Longfellow Elementary School
245 West 10th Street
Azusa, California 91702

Project #: Atch-211876

Azusa Unified School District

LEGEND:
I = IAQCalc Sample Locations
P = PDR1500 Sample Locations
MA = Mold Air Sample Locations

A-Tech Consulting, Inc.

Digital Photographs - IAQ

Locations: Longfellow Elementary School, 245 West 10th Street

Client Name: Azusa Unified School District

View of Exterior Air Sampling

View of Interior Air Sampling

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AIH LABORATORY
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MOLD AIR SAMPLE REPORT

Client Name: A-Tech Consulting Inc
Client Address: 1640 N. Batavia Street, Orange, CA 92867
Project Number: 211876
Project Location: 245 West 10th Street, Azusa, CA 91702

Report Status: Final Report
AIHA EMPAT#: 203769
Lab Batch Number: 2110245
Samples Received: 16
Samples Analyzed: 16

Laboratory Sample ID:	**211024501**	**211024502**	**211024503**
Client Sample ID:	**MA-0001**	**MA-0002**	**MA-0003**
Sample Location:	**Exterior**	**1st Floor, Classroom 1**	**1st Floor, Classroom 2**
Comments:	*None*	*None*	*None*

Quantitative Analysis

		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total
Inside/Outside	Aspergillus/Penicillium-like	46	920	39.3	6	240	28.6	4	160	80
	Cladosporium	55	1100	47	9	360	42.9	-	-	-
Water Damage Indication	Chaetomium	-	-	-	-	-	-	-	-	-
	Stachybotrys	-	-	-	-	-	-	-	-	-
	Trichoderma	-	-	-	-	-	-	-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
Outdoor Environment	Alternaria	2	40	1.7	-	-	-	-	-	-
	Ascospores	4	80	3.4	3	120	14.3	-	-	-
	Basidiospores	6	120	5.1	-	-	-	-	-	-
	Bipolaris	2	40	1.7	-	-	-	-	-	-
	Curvularia	-	-	-	1	40	4.8	-	-	-
	Epicoccum	-	-	-	-	-	-	-	-	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	1	20	0.9	2	80	9.5	1	40	20
	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-	-	-
	Torula	-	-	-	-	-	-	-	-	-
	Miscellaneous Spores	-	-	-	-	-	-	-	-	-
	Ganoderma	1	20	0.9	-	-	-	-	-	-
	Total	117	2340	100	21	840	100	5	200	100

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MOLD AIR SAMPLE REPORT

Client Name:	A-Tech Consulting Inc	**Report Status:**	Final Report
Client Address:	1640 N. Batavia Street, Orange, CA 92867	**AIHA EMPAT#:**	203769
Project Number:	211876	**Lab Batch Number:**	2110245
Project Location:	245 West 10th Street, Azusa, CA 91702	**Samples Received:**	16
		Samples Analyzed:	16

Laboratory Sample ID:	**211024501**	**211024502**	**211024503**
Client Sample ID:	**MA-0001**	**MA-0002**	**MA-0003**
Sample Location:	**Exterior**	**1st Floor, Classroom 1**	**1st Floor, Classroom 2**

Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	150	75	75

Qualitative Analysis

Skin Fragments- 1 to 5 (low to high):	2	2	2
Background/m3- 1 to 5 (low to high):	5	3	2
Hyphal Fragments- 1 to 5 (low to high):	1	1	1

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MOLD AIR SAMPLE REPORT

Client Name: A-Tech Consulting Inc
Client Address: 1640 N. Batavia Street, Orange, CA 92867
Project Number: 211876
Project Location: 245 West 10th Street, Azusa, CA 91702

Report Status: Final Report
AIHA EMPAT#: 203769
Lab Batch Number: 2110245
Samples Received: 16
Samples Analyzed: 16

Laboratory Sample ID:	**211024504**	**211024505**	**211024506**
Client Sample ID:	**MA-0004**	**MA-0005**	**MA-0006**
Sample Location:	**1st Floor, Classroom 3**	**1st Floor, Classroom 4**	**1st Floor, Classroom 5**
Comments:	*None*	*None*	*None*

Quantitative Analysis

		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total
Inside/Outside	Aspergillus/Penicillium-like	3	120	37.5	11	440	55	2	80	25
	Cladosporium	2	80	25	4	160	20	1	40	12.5
Water Damage Indication	Chaetomium	-	-	-	-	-	-	-	-	-
	Stachybotrys	-	-	-	-	-	-	-	-	-
	Trichoderma	-	-	-	-	-	-	-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
Outdoor Environment	Alternaria	1	40	12.5	-	-	-	1	40	12.5
	Ascospores	1	40	12.5	-	-	-	1	40	12.5
	Basidiospores	-	-	-	3	120	15	1	40	12.5
	Bipolaris	-	-	-	-	-	-	-	-	-
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	-	-	-	-	-	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	1	40	12.5	2	80	10	1	40	12.5
	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-	-	-
	Torula	-	-	-	-	-	-	-	-	-
	Miscellaneous Spores	-	-	-	-	-	-	1	40	12.5
	Ganoderma	-	-	-	-	-	-	-	-	-
	Total	8	320	100	20	800	100	8	320	100

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MOLD AIR SAMPLE REPORT

Client Name:	A-Tech Consulting Inc	**Report Status:**	Final Report
Client Address:	1640 N. Batavia Street, Orange, CA 92867	**AIHA EMPAT#:**	203769
Project Number:	211876	**Lab Batch Number:**	2110245
Project Location:	245 West 10th Street, Azusa, CA 91702	**Samples Received:**	16
		Samples Analyzed:	16

Laboratory Sample ID:	**211024504**	**211024505**	**211024506**
Client Sample ID:	**MA-0004**	**MA-0005**	**MA-0006**
Sample Location:	**1st Floor, Classroom 3**	**1st Floor, Classroom 4**	**1st Floor, Classroom 5**

Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	75	75	75

Qualitative Analysis

Skin Fragments- 1 to 5 (low to high):	2	2	2
Background/m3- 1 to 5 (low to high):	3	4	4
Hyphal Fragments- 1 to 5 (low to high):	1	1	1

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MOLD AIR SAMPLE REPORT

Client Name: A-Tech Consulting Inc
Client Address: 1640 N. Batavia Street, Orange, CA 92867
Project Number: 211876
Project Location: 245 West 10th Street, Azusa, CA 91702

Report Status: Final Report
AIHA EMPAT#: 203769
Lab Batch Number: 2110245
Samples Received: 16
Samples Analyzed: 16

Laboratory Sample ID:	**211024507**	**211024508**	**211024509**
Client Sample ID:	**MA-0007**	**MA-0008**	**MA-0009**
Sample Location:	**1st Floor, Classroom 6**	**1st Floor, Classroom 7**	**1st Floor, Classroom 8**
Comments:	*None*	*None*	*None*

Quantitative Analysis

		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total
Inside/Outside	Aspergillus/Penicillium-like	2	80	40	9	360	64.3	11	440	91.7
	Cladosporium	2	80	40	2	80	14.3	1	40	8.3
Water Damage Indication	Chaetomium	-	-	-	-	-	-	-	-	-
	Stachybotrys	-	-	-	-	-	-	-	-	-
	Trichoderma	-	-	-	-	-	-	-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
Outdoor Environment	Alternaria	-	-	-	-	-	-	-	-	-
	Ascospores	-	-	-	-	-	-	-	-	-
	Basidiospores	-	-	-	-	-	-	-	-	-
	Bipolaris	-	-	-	-	-	-	-	-	-
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	-	-	-	-	-	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	1	40	20	2	80	14.3	-	-	-
	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-	-	-
	Torula	-	-	-	-	-	-	-	-	-
	Miscellaneous Spores	-	-	-	1	40	7.1	-	-	-
	Ganoderma	-	-	-	-	-	-	-	-	-
	Total	5	200	100	14	560	100	12	480	100

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MOLD AIR SAMPLE REPORT

Client Name:	A-Tech Consulting Inc	**Report Status:**	Final Report
Client Address:	1640 N. Batavia Street, Orange, CA 92867	**AIHA EMPAT#:**	203769
Project Number:	211876	**Lab Batch Number:**	2110245
Project Location:	245 West 10th Street, Azusa, CA 91702	**Samples Received:**	16
		Samples Analyzed:	16

Laboratory Sample ID:	**211024507**	**211024508**	**211024509**
Client Sample ID:	**MA-0007**	**MA-0008**	**MA-0009**
Sample Location:	**1st Floor, Classroom 6**	**1st Floor, Classroom 7**	**1st Floor, Classroom 8**

Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	75	75	75

Qualitative Analysis

Skin Fragments- 1 to 5 (low to high):	2	2	2
Background/m3- 1 to 5 (low to high):	3	2	3
Hyphal Fragments- 1 to 5 (low to high):	1	1	1

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MOLD AIR SAMPLE REPORT

Client Name: A-Tech Consulting Inc
Client Address: 1640 N. Batavia Street, Orange, CA 92867
Project Number: 211876
Project Location: 245 West 10th Street, Azusa, CA 91702

Report Status: Final Report
AIHA EMPAT#: 203769
Lab Batch Number: 2110245
Samples Received: 16
Samples Analyzed: 16

Laboratory Sample ID:	**211024510**	**211024511**	**211024512**
Client Sample ID:	**MA-0010**	**MA-0011**	**MA-0012**
Sample Location:	**1st Floor, Classroom 9**	**1st Floor, Classroom 10**	**1st Floor, Classroom 11**
Comments:	*None*	*None*	*None*

Quantitative Analysis

		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total
Inside/Outside	Aspergillus/Penicillium-like	6	240	75	15	600	53.6	15	600	83.3
	Cladosporium	1	40	12.5	5	200	17.9	1	40	5.6
Water Damage Indication	Chaetomium	-	-	-	-	-	-	-	-	-
	Stachybotrys	-	-	-	-	-	-	-	-	-
	Trichoderma	-	-	-	-	-	-	-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
Outdoor Environment	Alternaria	-	-	-	-	-	-	-	-	-
	Ascospores	-	-	-	4	160	14.3	-	-	-
	Basidiospores	-	-	-	1	40	3.6	1	40	5.6
	Bipolaris	-	-	-	1	40	3.6	-	-	-
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	-	-	-	-	-	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	1	40	12.5	2	80	7.1	1	40	5.6
	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-	-	-
	Torula	-	-	-	-	-	-	-	-	-
	Miscellaneous Spores	-	-	-	-	-	-	-	-	-
	Ganoderma	-	-	-	-	-	-	-	-	-
	Total	8	320	100	28	1120	100	18	720	100

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MOLD AIR SAMPLE REPORT

Client Name:	A-Tech Consulting Inc	**Report Status:**	Final Report
Client Address:	1640 N. Batavia Street, Orange, CA 92867	**AIHA EMPAT#:**	203769
Project Number:	211876	**Lab Batch Number:**	2110245
Project Location:	245 West 10th Street, Azusa, CA 91702	**Samples Received:**	16
		Samples Analyzed:	16

Laboratory Sample ID:	**211024510**	**211024511**	**211024512**
Client Sample ID:	**MA-0010**	**MA-0011**	**MA-0012**
Sample Location:	**1st Floor, Classroom 9**	**1st Floor, Classroom 10**	**1st Floor, Classroom 11**

Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	75	75	75

Qualitative Analysis

Skin Fragments- 1 to 5 (low to high):	2	2	2
Background/m3- 1 to 5 (low to high):	3	3	3
Hyphal Fragments- 1 to 5 (low to high):	1	2	1

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MOLD AIR SAMPLE REPORT

Client Name: A-Tech Consulting Inc
Client Address: 1640 N. Batavia Street, Orange, CA 92867
Project Number: 211876
Project Location: 245 West 10th Street, Azusa, CA 91702

Report Status: Final Report
AIHA EMPAT#: 203769
Lab Batch Number: 2110245
Samples Received: 16
Samples Analyzed: 16

Laboratory Sample ID:	**211024513**	**211024514**	**211024515**
Client Sample ID:	**MA-0013**	**MA-0014**	**MA-0015**
Sample Location:	**1st Floor, Classroom 12**	**1st Floor, Library**	**1st Floor, Computer Lab**
Comments:	*None*	*None*	*This sample is heavy with particulate. There may be discrepancies in the results.*

Quantitative Analysis

		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total
Inside/Outside	Aspergillus/Penicillium-like	8	320	80	16	640	72.7	34	1360	64.2
	Cladosporium	1	40	10	4	160	18.2	13	520	24.5
Water Damage Indication	Chaetomium	-	-	-	-	-	-	1	40	1.9
	Stachybotrys	-	-	-	-	-	-	-	-	-
	Trichoderma	-	-	-	-	-	-	-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
Outdoor Environment	Alternaria	-	-	-	-	-	-	-	-	-
	Ascospores	-	-	-	1	40	4.5	1	40	1.9
	Basidiospores	-	-	-	-	-	-	1	40	1.9
	Bipolaris	-	-	-	-	-	-	-	-	-
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	-	-	-	-	-	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	1	40	10	1	40	4.5	3	120	5.7
	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-	-	-
	Torula	-	-	-	-	-	-	-	-	-
	Miscellaneous Spores	-	-	-	-	-	-	-	-	-
	Ganoderma	-	-	-	-	-	-	-	-	-
	Total	10	400	100	22	880	100	53	2120	100

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MOLD AIR SAMPLE REPORT

Client Name:	A-Tech Consulting Inc	**Report Status:**	Final Report
Client Address:	1640 N. Batavia Street, Orange, CA 92867	**AIHA EMPAT#:**	203769
Project Number:	211876	**Lab Batch Number:**	2110245
Project Location:	245 West 10th Street, Azusa, CA 91702	**Samples Received:**	16
		Samples Analyzed:	16

Laboratory Sample ID:	**211024513**	**211024514**	**211024515**
Client Sample ID:	**MA-0013**	**MA-0014**	**MA-0015**
Sample Location:	**1st Floor, Classroom 12**	**1st Floor, Library**	**1st Floor, Computer Lab**

Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	75	75	75

Qualitative Analysis

Skin Fragments- 1 to 5 (low to high):	2	2	3
Background/m3- 1 to 5 (low to high):	4	4	5
Hyphal Fragments- 1 to 5 (low to high):	1	1	2

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MOLD AIR SAMPLE REPORT

Client Name: A-Tech Consulting Inc
Client Address: 1640 N. Batavia Street, Orange, CA 92867
Project Number: 211876
Project Location: 245 West 10th Street, Azusa, CA 91702

Report Status: Final Report
AIHA EMPAT#: 203769
Lab Batch Number: 2110245
Samples Received: 16
Samples Analyzed: 16

Laboratory Sample ID:	**211024516**	**XXXXXXXX**	**XXXXXXXX**
Client Sample ID:	**MA-0016**	**XXXXXXXX**	**XXXXXXXX**
Sample Location:	**Exterior**	**XXXXXXXX**	**XXXXXXXX**
Comments:	*None*		

Quantitative Analysis

		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total
Inside/Outside	Aspergillus/Penicillium-like	5	100	13.9						
	Cladosporium	20	400	55.6						
Water Damage Indication	Chaetomium	1	20	2.8						
	Stachybotrys	-	-	-						
	Trichoderma	-	-	-						
	Ulocladium	-	-	-						
Outdoor Environment	Alternaria	2	40	5.6						
	Ascospores	2	40	5.6						
	Basidiospores	2	40	5.6						
	Bipolaris	-	-	-						
	Curvularia	-	-	-						
	Epicoccum	-	-	-						
	Nigrospora	-	-	-						
	Periconia/Myxo/Smut	3	60	8.3						
	Pithomyces	-	-	-						
	Rust	-	-	-						
	Spegazzinia	-	-	-						
	Tetraploa	-	-	-						
	Torula	-	-	-						
	Miscellaneous Spores	-	-	-						
	Ganoderma	1	20	2.8						
	Total	36	720	100						

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MOLD AIR SAMPLE REPORT

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Project Number:	211876	**Lab Batch Number:**	2110245
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		Samples Analyzed:	16

Laboratory Sample ID:	**211024516**	**XXXXXXXX**	**XXXXXXXX**
Client Sample ID:	**MA-0016**	**XXXXXXXX**	**XXXXXXXX**
Sample Location:	**Exterior**	**XXXXXXXX**	**XXXXXXXX**

Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	150		

Qualitative Analysis

Skin Fragments- 1 to 5 (low to high):	1		
Background/m3- 1 to 5 (low to high):	4		
Hyphal Fragments- 1 to 5 (low to high):	1		

Analyzed by: Emily Chang **Signature:** **Date:** 07-01-2021

Reviewed by: Zubair Ahmed **Signature:** **Date:** 07-02-2021

No accepted regulatory standards currently exit by which to assess the health risks related to mold exposure. Molds have been associated with a variety of health effects and sensitivity varies from person to person. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. High levels of background particulate can obscure spores and other particulates leading to underestimation. "-" Denotes not detected. Background levels of 4 or 5 indicate an overload of background particulates, prohibiting accurate detection and quantification. AIH Laboratory maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by AIH Laboratory. AIH Laboratory bears no responsibility for sample collection activities or analytical method limitations. Spores/m^3 calculation based on volume information provided by client. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted. All report format and design are copyright of AIH Laboratory 2021.
AIHA LAP, LLC Accredited Laboratory for Microbiology Laboratory ISO/IEC 17025:2005, Lab ID# 203769

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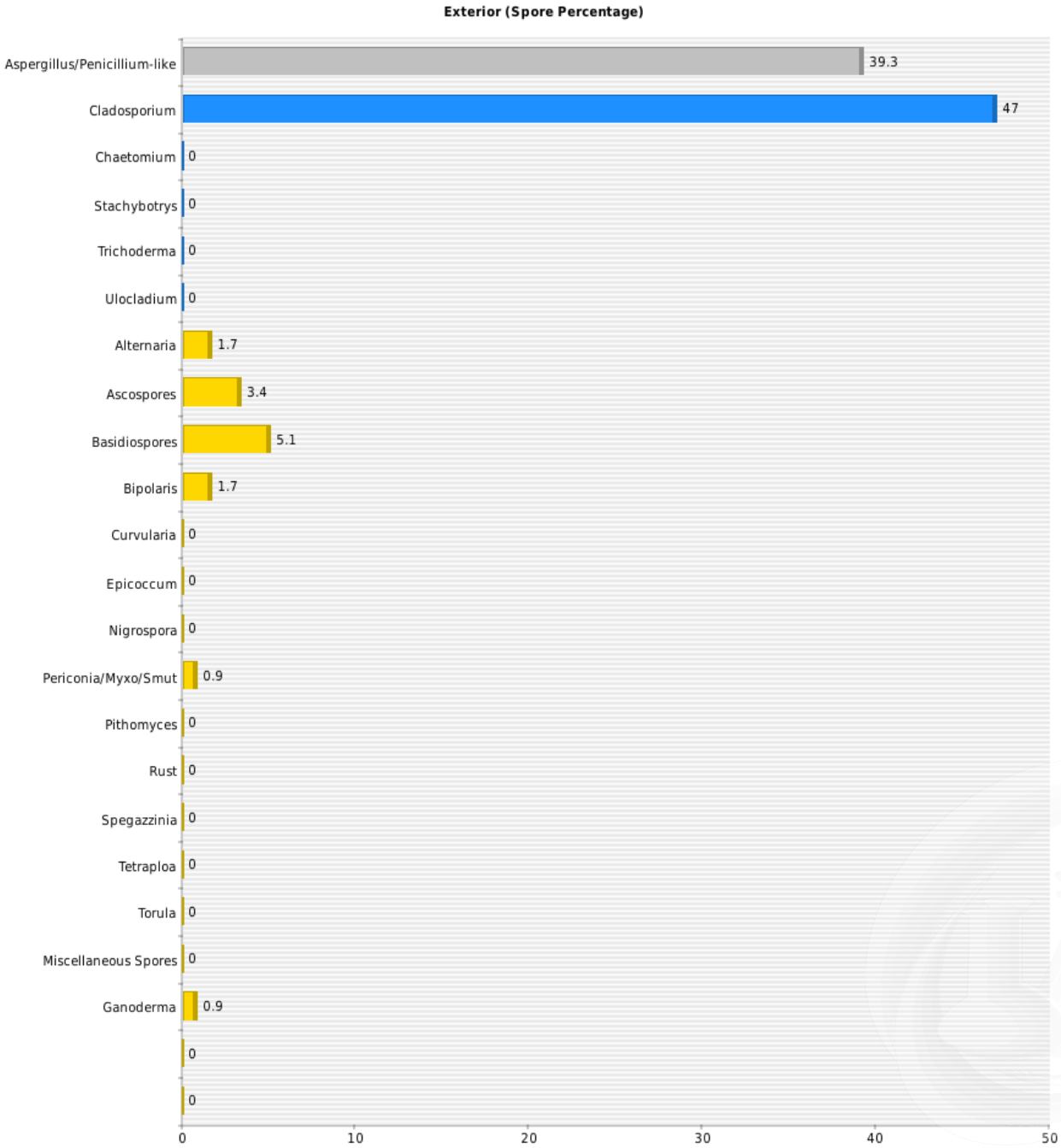

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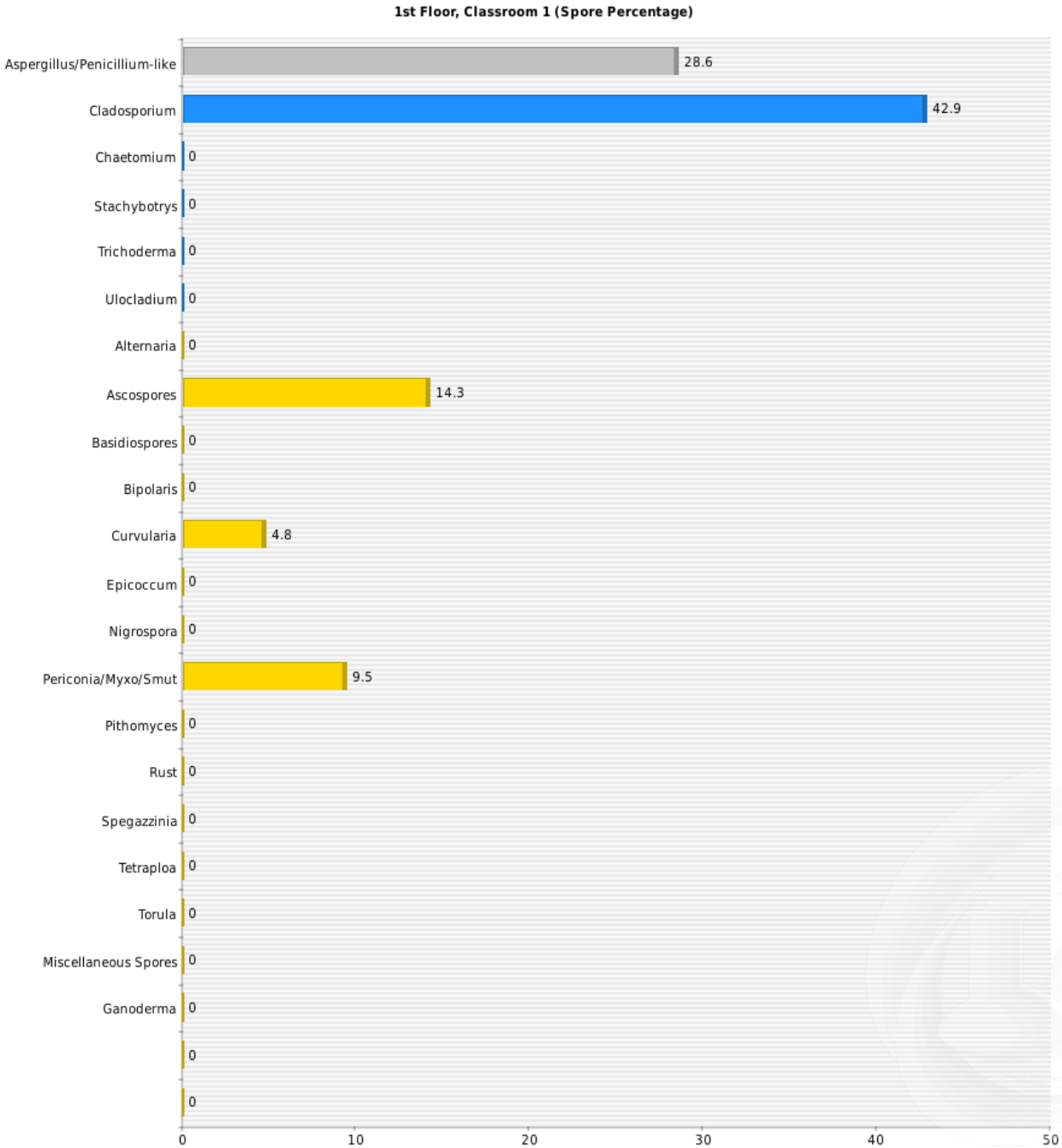

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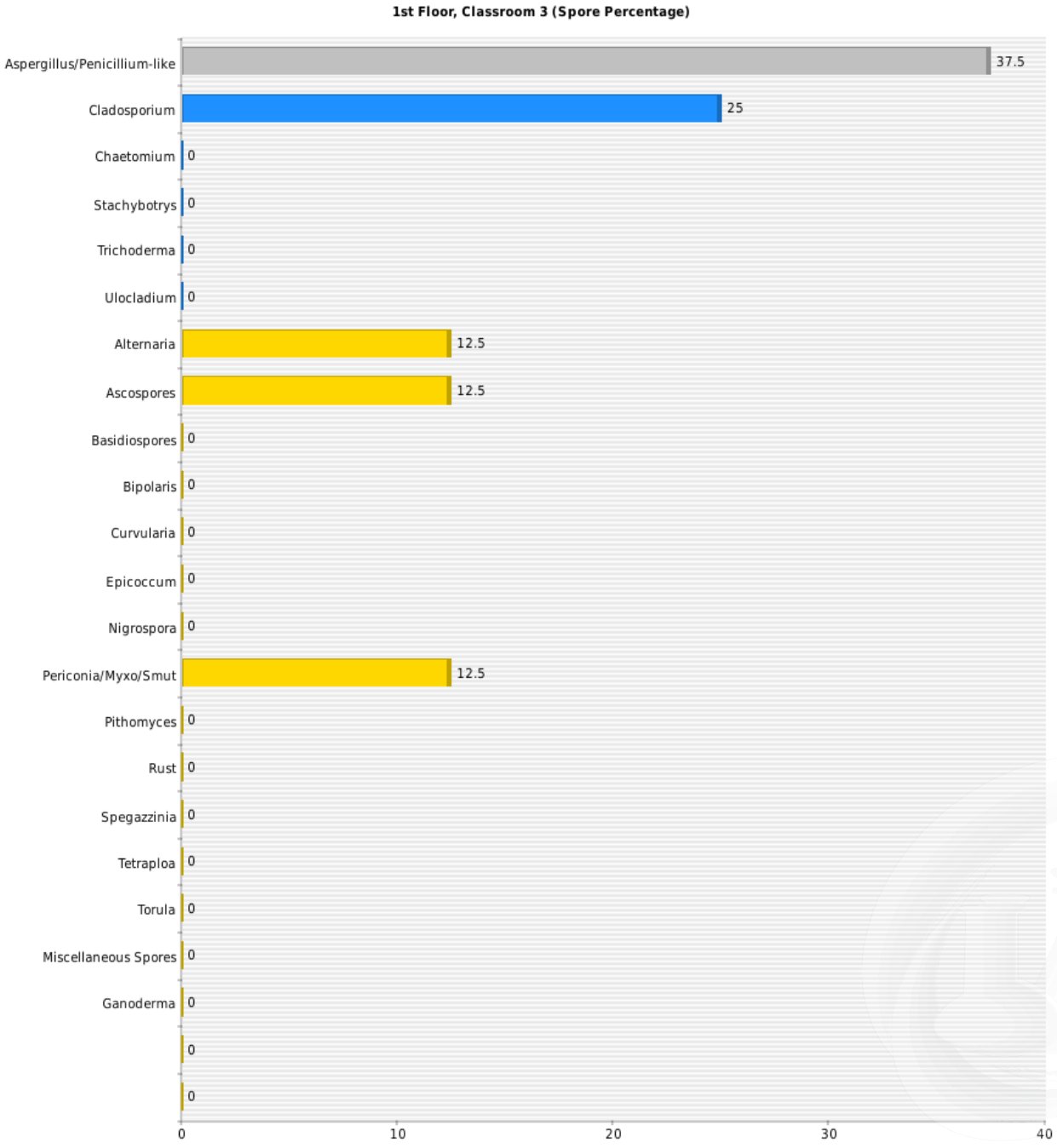

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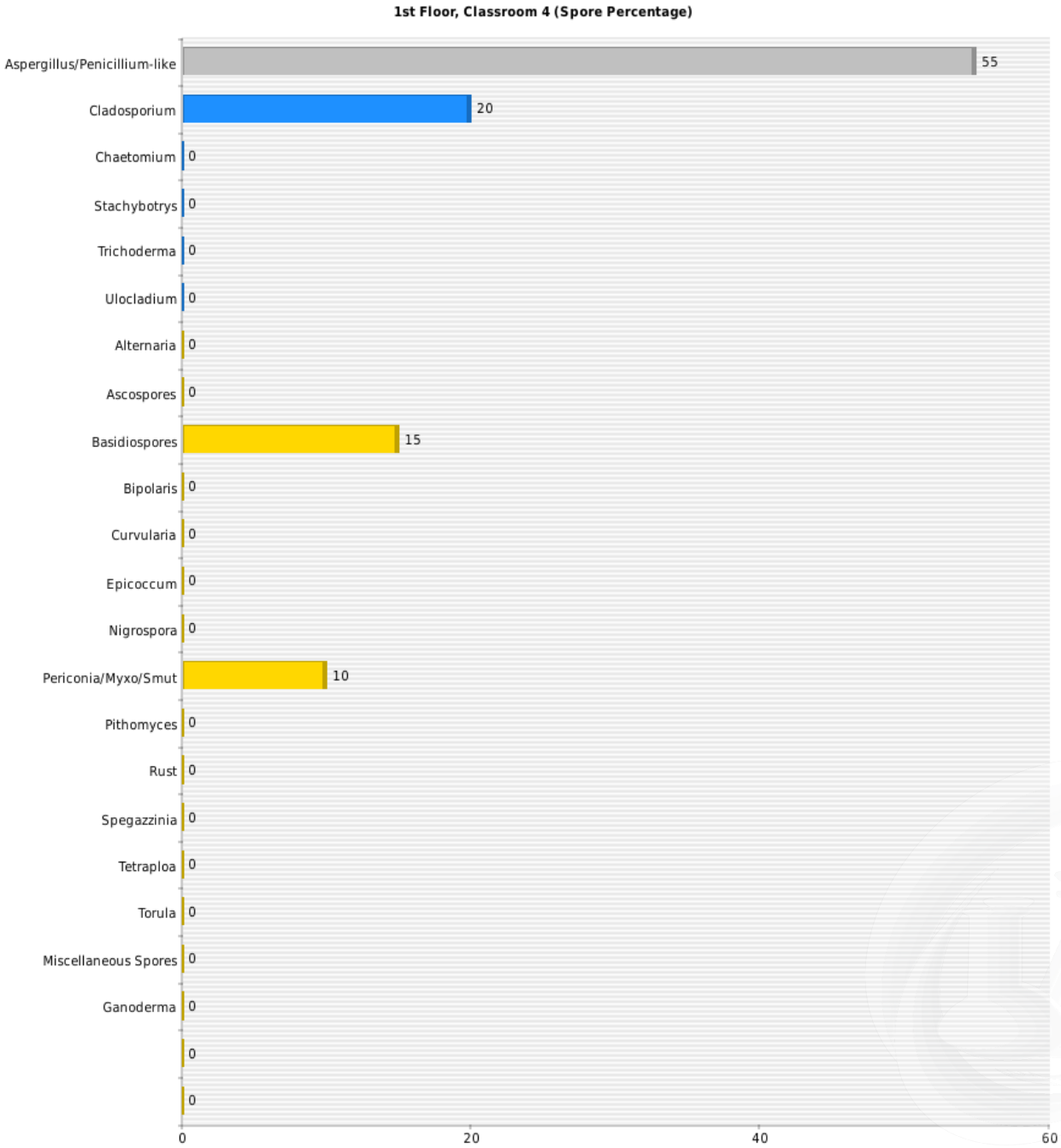

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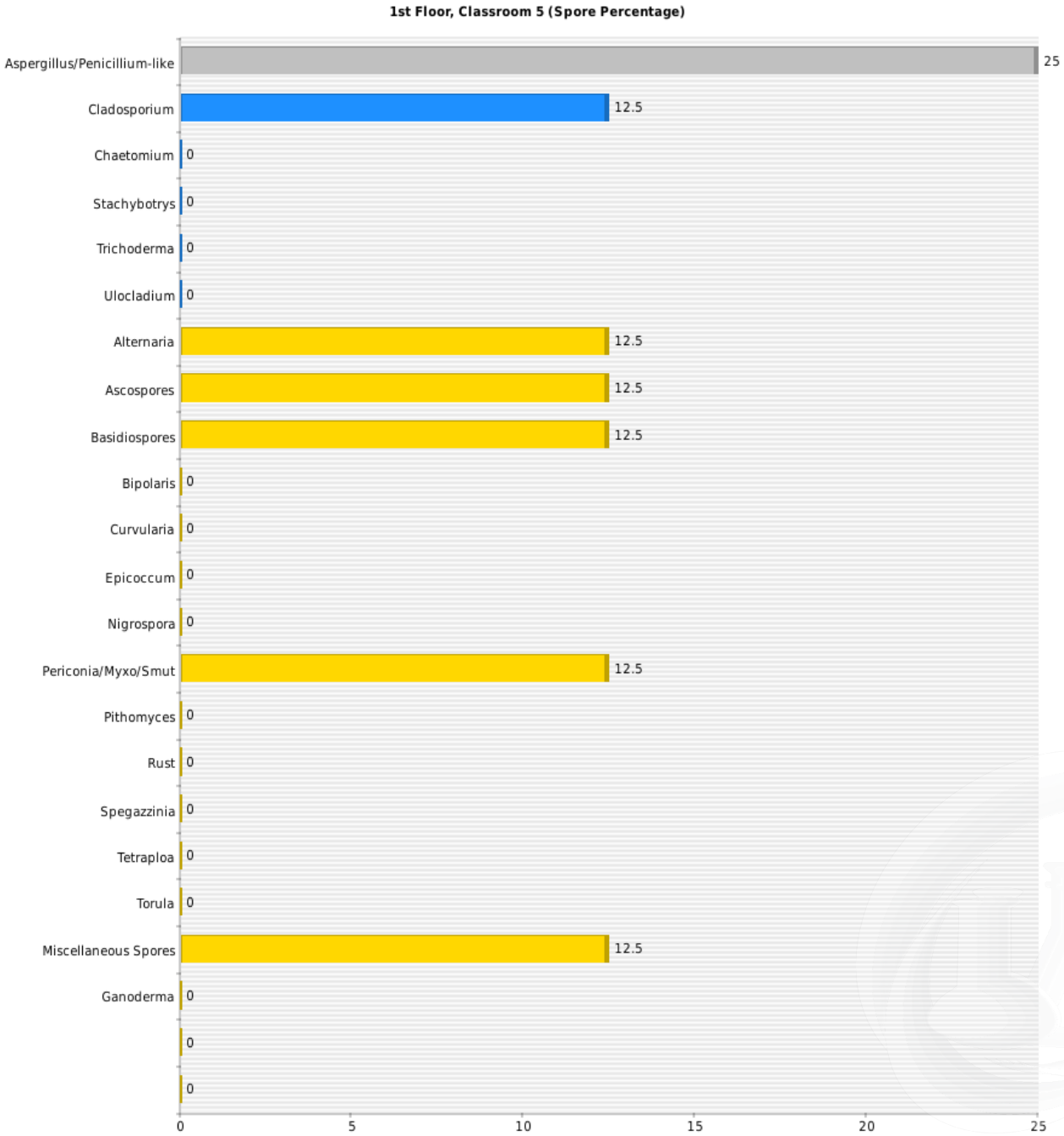

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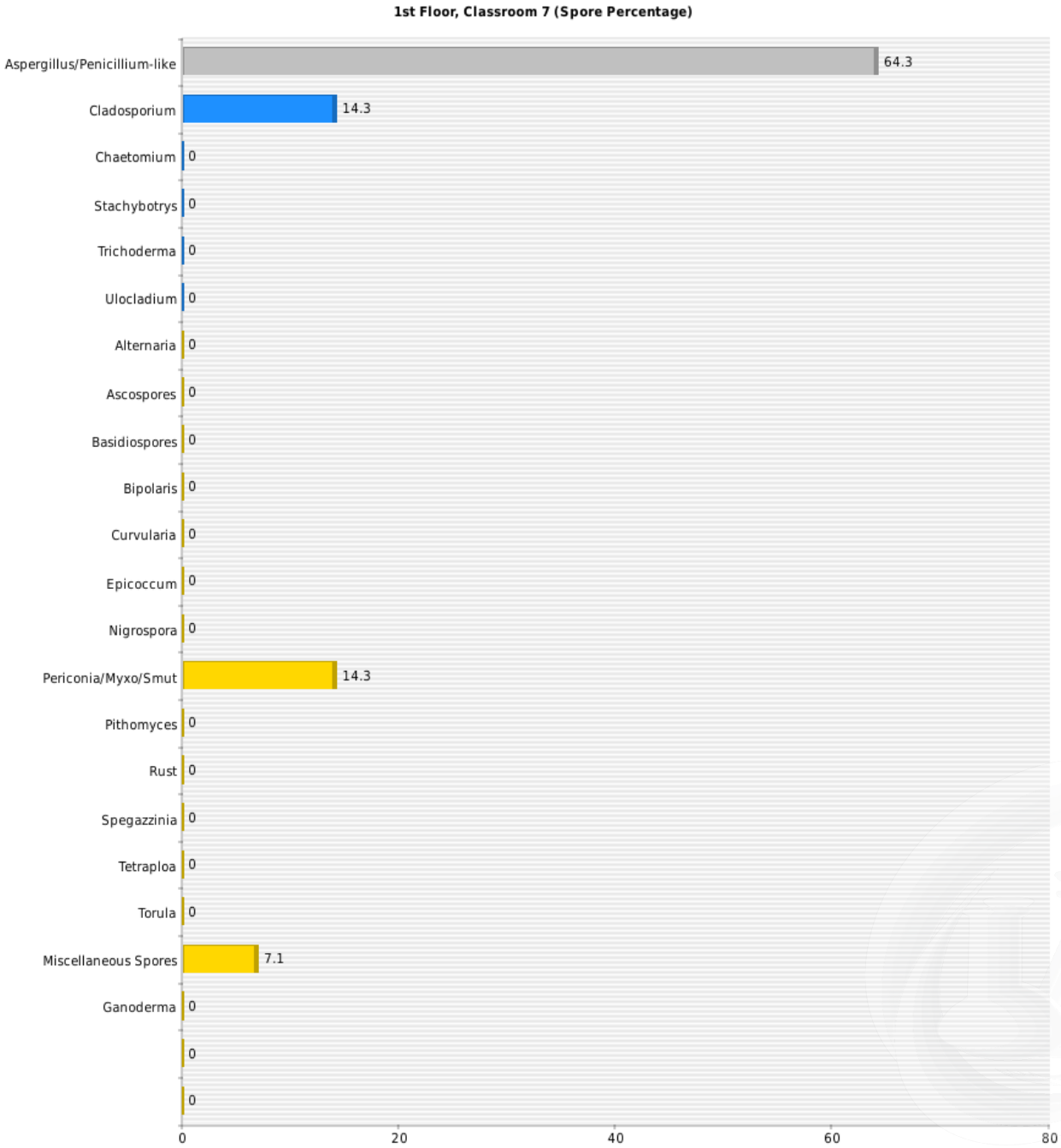

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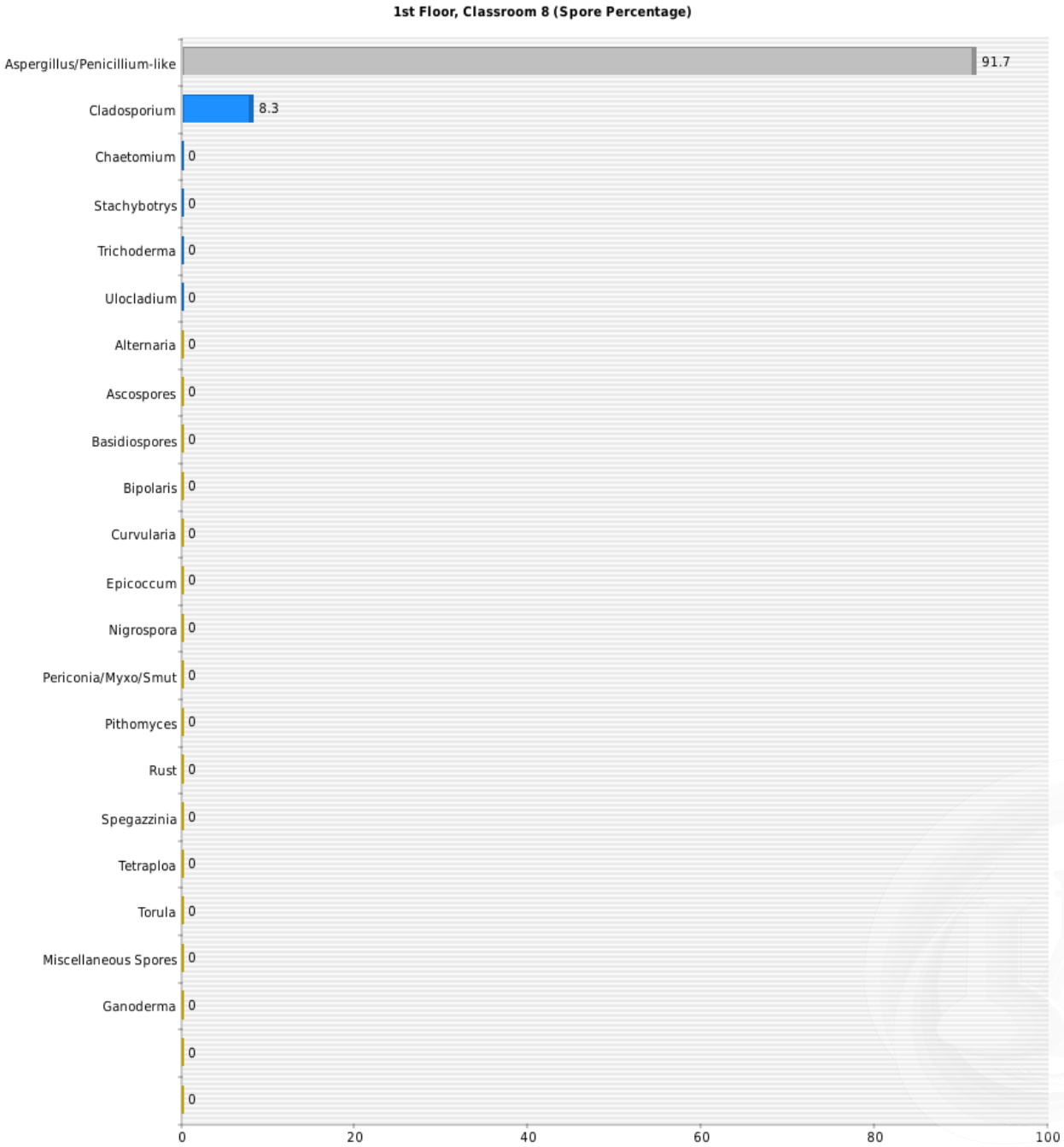

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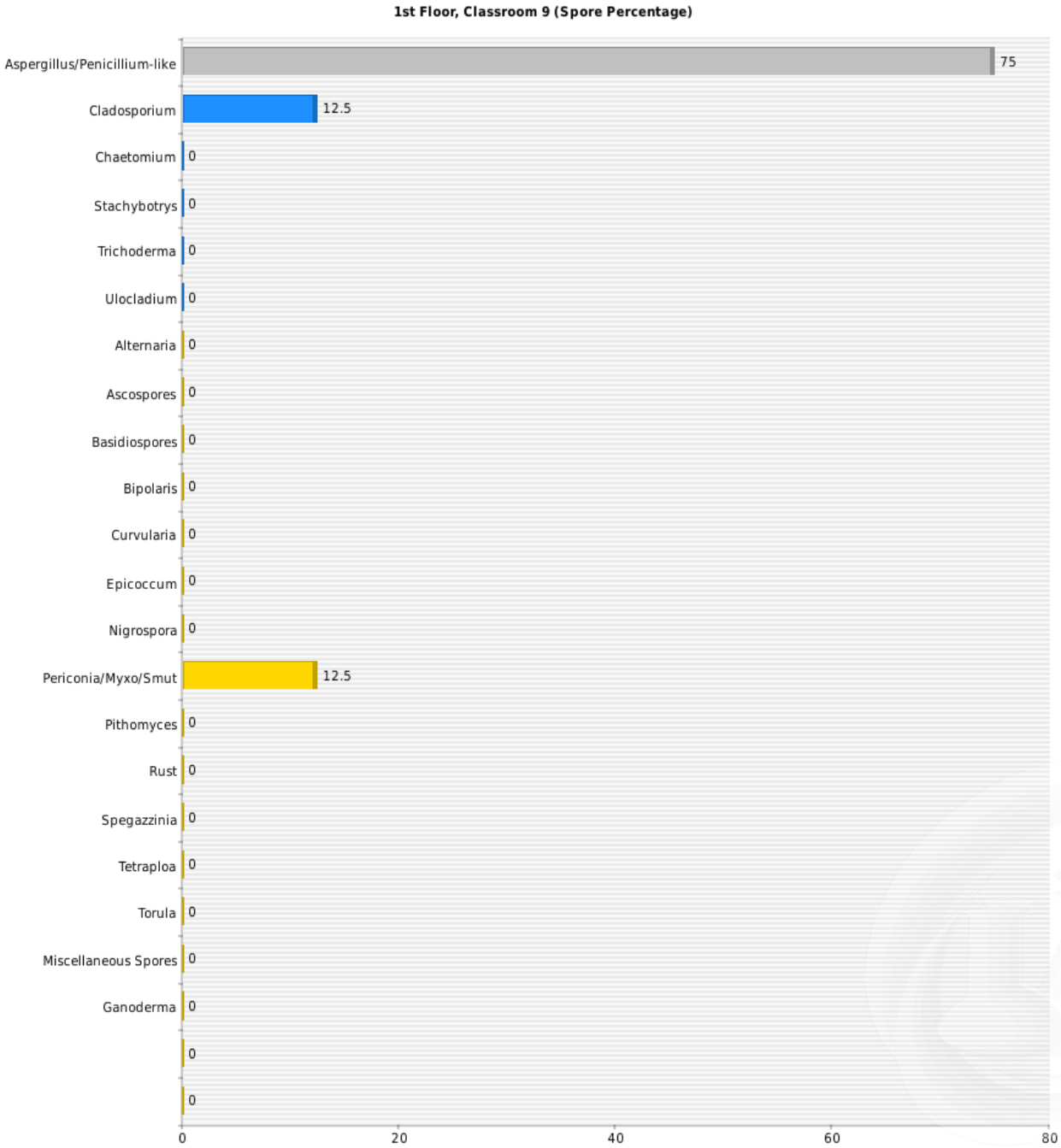

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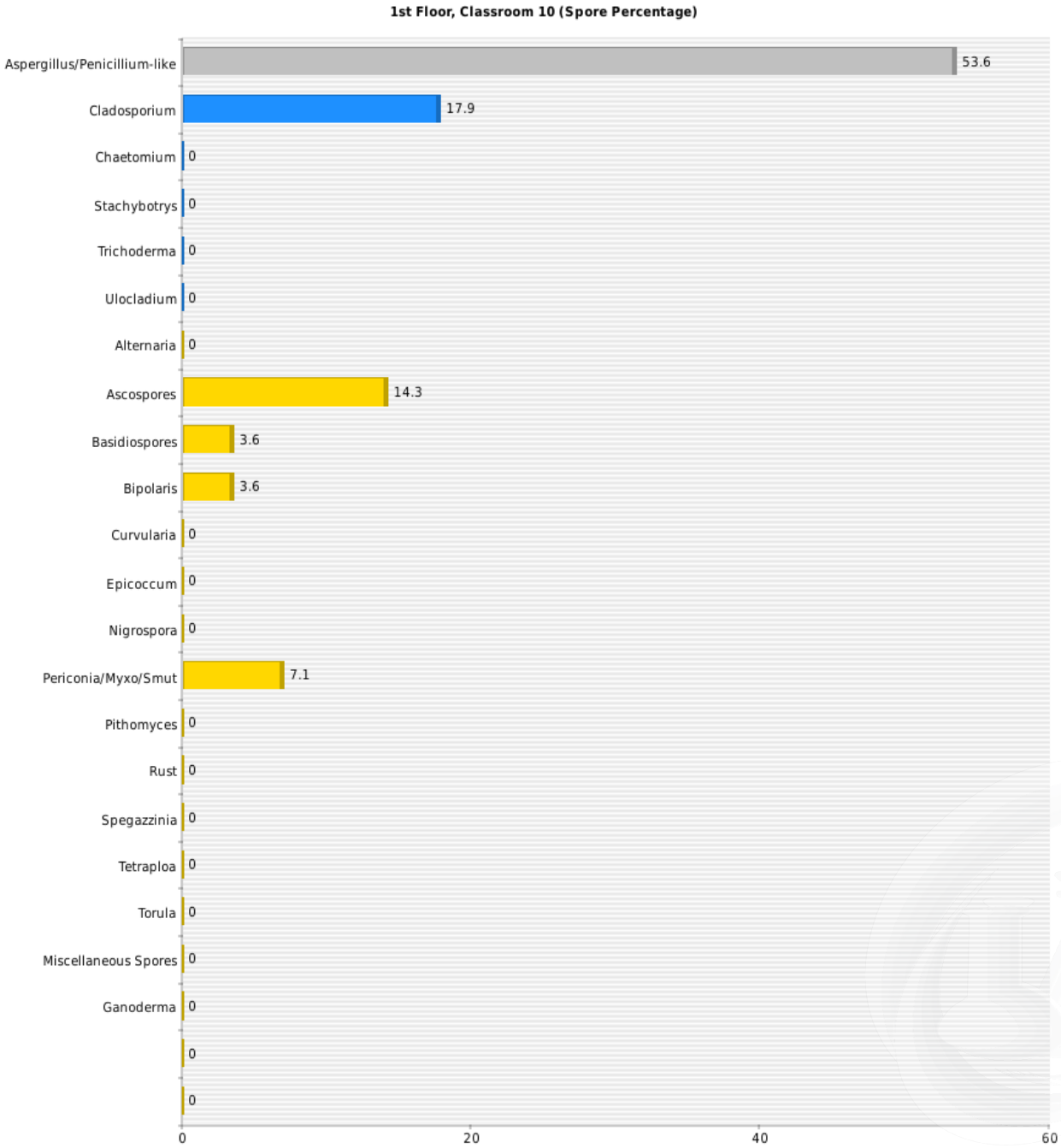

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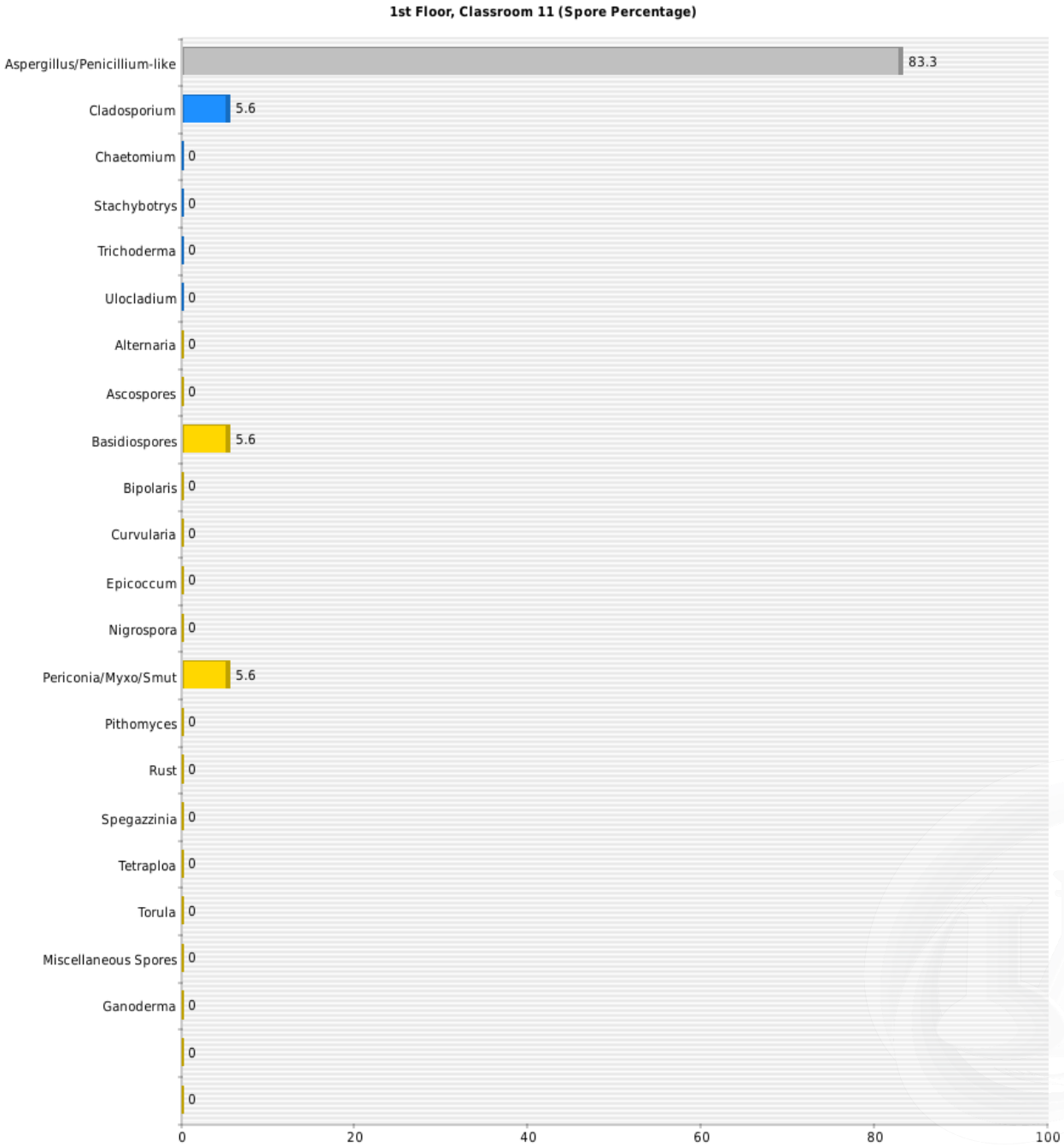

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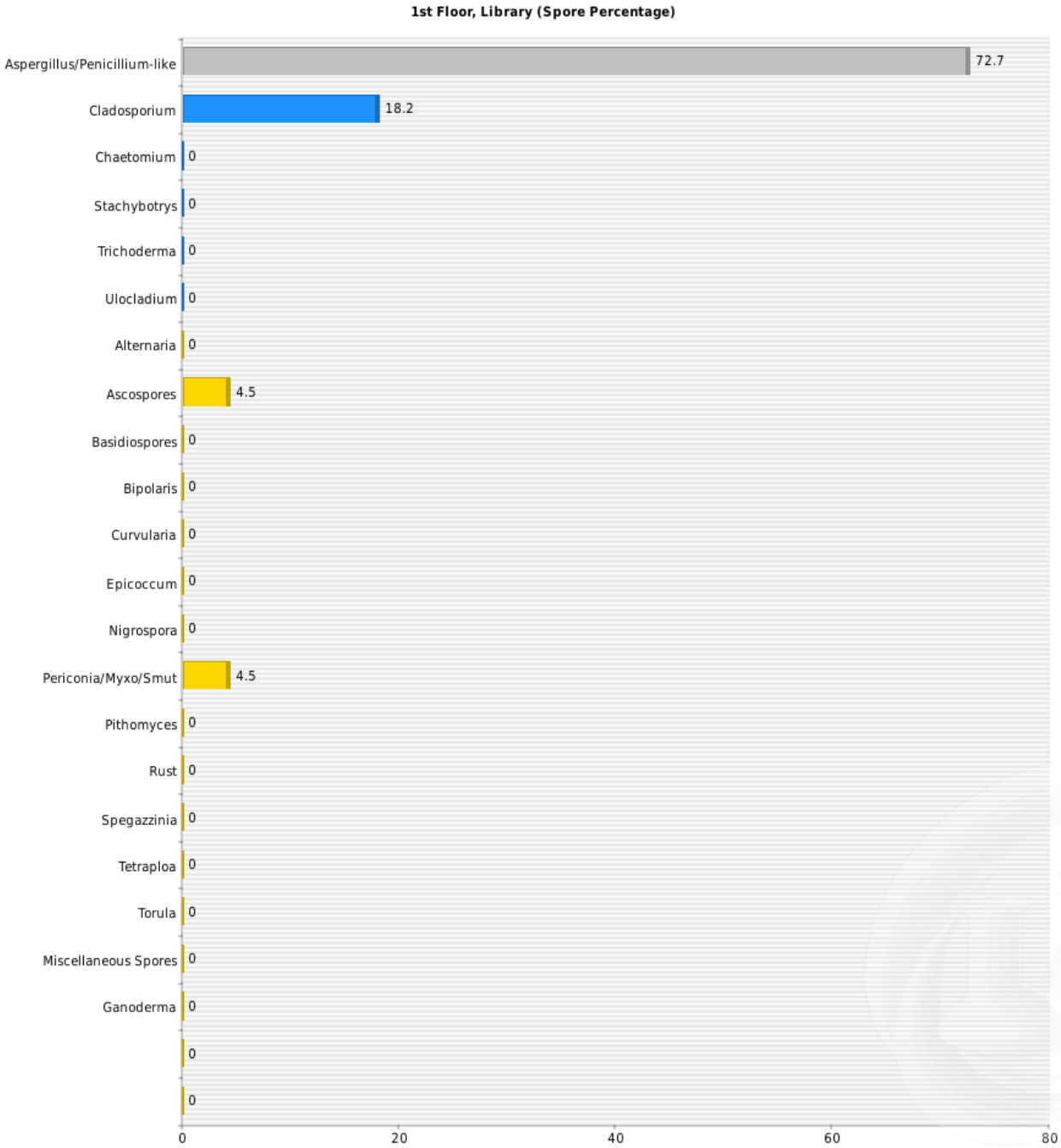

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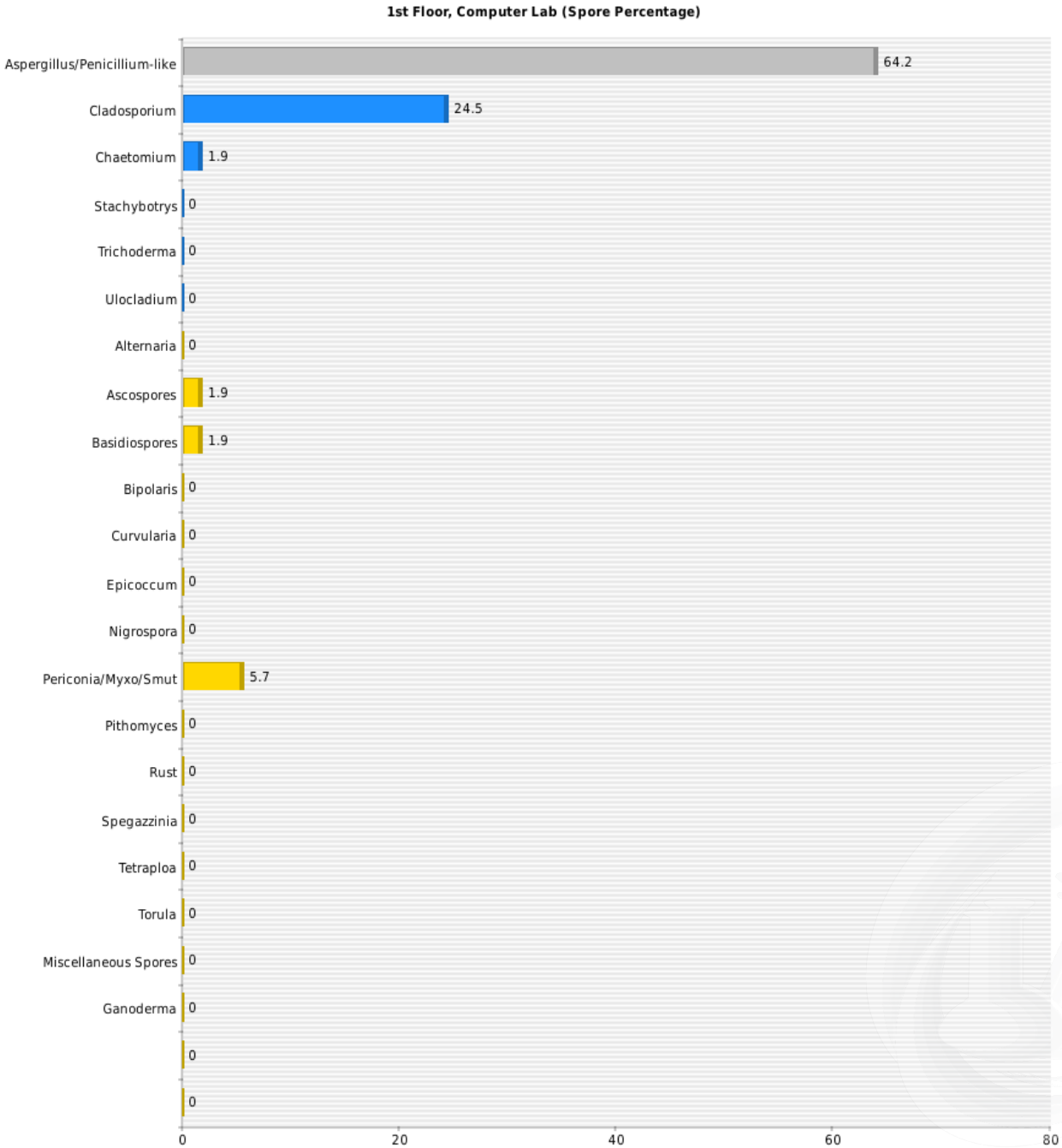

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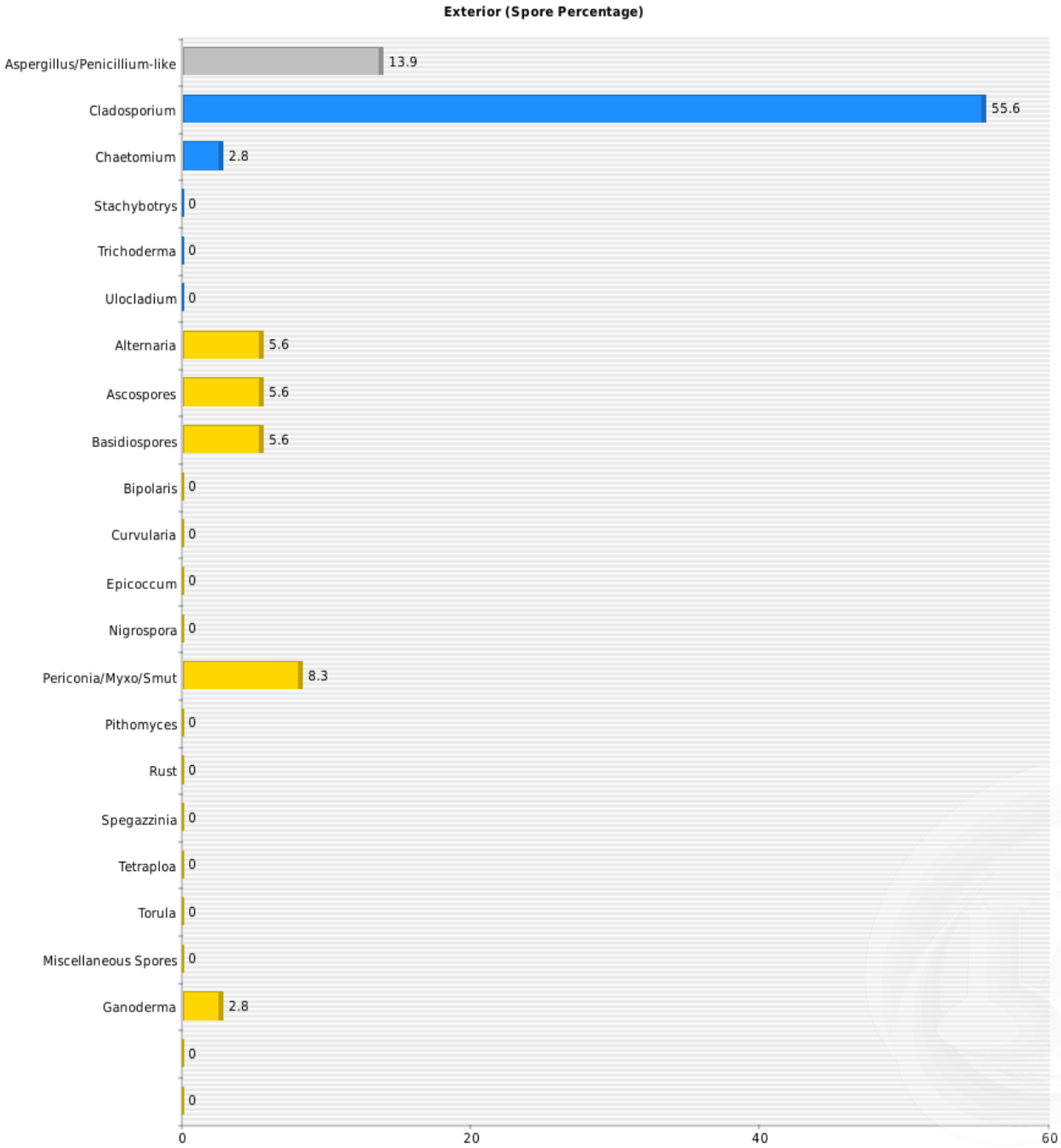

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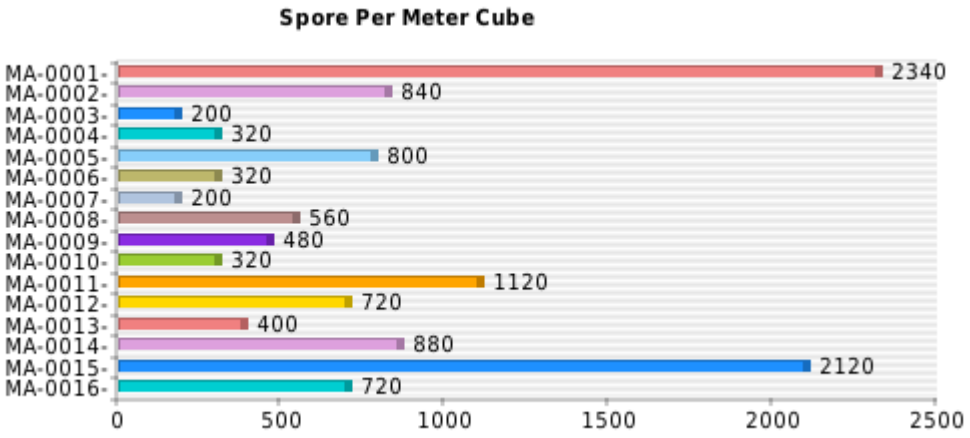

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Understanding Sampling and Laboratory Methodologies

Spore Trap Cassettes (Air Sampling media) are unique air sampling cassettes specifically designed for the rapid collection of a wide range of airborne aerosols including mold spores, pollen, insect parts, skin cell fragments, and inorganic particulate. The analytical results obtained from include both viable and non-viable spores. Some fungal groups produce similar spore types that are difficult to be distinguished only by direct microscopic examination like Aspergillus/Penicillium, or other identical spore. Similarly other spore types may lack distinguishing features that aid in their identification like hyphae. To avoid any confusion these types are grouped into larger categories such as Ascospores or Basidiospores.

Examination Technique:

AIH Laboratory Fungal Air Sample Reports data results are provided in spore counts per cubic meter of air. Fungal spores are identified and grouped by morphological characteristics including color, shape, size, and fruiting structures (if present) which are compared to published mycological identification keys and texts.

Qualitative Analysis:

It is difficult to precisely measure some analytical findings which aid in assessing the overall sample condition and density. Qualitative analysis is used to determine concentration of Skin Fragments, Background and Hyphal fragments. A number between 1-5 is used to rate the concentrations. Each number increase in rate adds a range of 1-20% Please understand that higher the number of skin fragments and background particle it may obscure small spore. Overloaded in comments indicate that sample failed to meet visibility density criteria and thus the quantitate analysis was not performed on the particular sample.

Analysis:

This data is gathered by visual and statistical analysis performed on the specimen. The quantitative data is adhered to strict quality control procedures. This strict quality is achieved by reanalyzing at least 10% of samples. The results from original analysis and re-read must be close with only minor variation. If results do not fall under minor variation criteria, then all samples must be analyzed again. The quantitative data is used to produce the final result in spore(s) per meter cube.

About AIH Laboratory

AIH Laboratory is renowned laboratory located in Anaheim, CA. The staff at AIH Laboratory is recognized by State, Federal agencies and International Accrediting Bodies. AIH Laboratory employs sophisticated techniques, strong professional experience along with recognized testing procedures in the industry. AIH Laboratory participates in Inter-laboratory testing program with various national laboratories to ensure conformance with newly adapted technologies, research and methodologies. The samples received by AIH Laboratory are processed under strict quality control procedures to avoid any discrepancy in results. The data generated by the laboratory from the analytical observation of the specimens is presented in a format that is easily understood by anyone with a science background. An environmental expert will accurately interpret the data and findings detailed in this report.

A-Tech Consulting, Inc. 2110245

A-Tech Project Number: 211876
Client Reference Number:

MOLD AIR SAMPLE CHAIN OF CUSTODY

Analysis: Non-Viable Spore Trap (Air-O-Cell)(ID Fungal Count & Genus; Direct Exam)
Turn Around Time: 72 Hour

Phone Number: (714) 434-6360
Fax Number: (714) 221-6360
Attn: Robert Williams
Results: Email to labs@atechinc.net

Project Number and Name:	**Sampled By:**		
211876 - Azusa USD Longfellow Elementary School	Krizia Kolakowski		
Project Address:	**City:**	**State:**	**Zip:**
245 West 10th Street	Azusa	CA	91702-2310
Notes:			

Sample Date	Sample ID	Sample Location	Sample Volume (L)
6/29/2021 8:31 AM	211876-MA-0001	Exterior	
6/29/2021 8:40 AM	211876-MA-0002	1st Floor, Classroom 1	75
6/29/2021 8:48 AM	211876-MA-0003	1st Floor, Classroom 2	75
6/29/2021 9:00 AM	211876-MA-0004	1st Floor, Classroom 3	75
6/29/2021 9:10 AM	211876-MA-0005	1st Floor, Classroom 4	75
6/29/2021 9:19 AM	211876-MA-0006	1st Floor, Classroom 5	75
6/29/2021 9:29 AM	211876-MA-0007	1st Floor, Classroom 6	75
6/29/2021 9:53 AM	211876-MA-0008	1st Floor, Classroom 7	75
6/29/2021 10:08 AM	211876-MA-0009	1st Floor, Classroom 8	75
6/29/2021 10:20 AM	211876-MA-0010	1st Floor, Classroom 9	75
6/29/2021 10:35 AM	211876-MA-0011	1st Floor, Classroom 10	75
6/29/2021 10:52 AM	211876-MA-0012	1st Floor, Classroom 11	75
6/29/2021 11:00 AM	211876-MA-0013	1st Floor, Classroom 12	75

Client Sample Number: 211876-MA-0001 to 211876-MA-0016 **Total:** 16

Relinquished By: **Date:** 6/29/2021 **Time:** 1:12 PM

Samples Received By: Ryan Sewell LA **Date:** 6/29/2021 **Time:** 1:15p

Relinquished By: **Date:** **Time:**

Samples Received By: **Date:** **Time:**

1640 North Batavia Street, Orange, CA 92867-3509
Phone: 714-434-6360 Fax 714-221-6360
Web Address: www.atechinc.net

A-Tech Consulting, Inc. 2110245

A-Tech Project Number: 211876
Client Reference Number:

MOLD AIR SAMPLE CHAIN OF CUSTODY

6/29/2021 11:17 AM	211876-MA-0014	1st Floor, Library	75
6/29/2021 11:24 AM	211876-MA-0015	1st Floor, Computer Lab	75
6/29/2021 11:30 AM	211876-MA-0016	Exterior	150

Client Sample Number: 211876-MA-0001 to 211876-MA-0016 **Total:** 16

Relinquished By: **Date:** 6/29/2021 **Time:** 1:12 PM

Samples Received By: Ryan Lucell JS **Date:** 6/30/2021 **Time:** 1:15P

Relinquished By: **Date:** **Time:**

Samples Received By: **Date:** **Time:**

1640 North Batavia Street, Orange, CA 92867-3509
Phone: 714-434-6360 Fax 714-221-6360
Web Address: www.atechinc.net

INSTRUMENT CALIBRATION REPORT

Advanced Labs, Inc.

A-Tech Testing

Instrument ID T75451842011
Description TSI 7545 IAQ-Calc
Calibrated 12/21/2020

Manufacturer TSI
Model Number 7545
Serial Number T75451842011
Location New Jersey
Temp 68

Classification
Status Pass
Frequency Yearly EOM
Department Lab
Humidity 25

Calibration Specifications

Group # 1
Group Name Temperature
Stated Accy Plus / Minus
Range Acc % 0.0000
Reading Acc % 0.0000
Plus/Minus 0.60

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
20.00 / 17.70	°C	17.70	°C	17.80	17.70	0.00%	Pass

Group # 2
Group Name Relative Humidity
Stated Accy Plus / Minus
Range Acc % 0.0000
Reading Acc % 0.0000
Plus/Minus 3.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
30.00 / 29.40	%	29.40	%	31.10	29.40	0.00%	Pass

Group # 3
Group Name Carbon Dioxide
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	ppm	0.00	ppm	6.00	0.00	0.00%	Pass
1000.00 / 1000.00	ppm	1000.00	ppm	970.00	1,002.00	0.20%	Pass

Group # 4
Group Name Carbon Monoxide
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
0.00 / 0.00	ppm	0.00	ppm	0.40	0.00	0.00%	Pass
100.00 / 100.00	ppm	100.00	ppm	67.30	100.40	0.40%	Pass

Group # 5
Group Name Barometric Pressure
Stated Accy Pct of Reading
Range Acc % 0.0000
Reading Acc % 3.0000
Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
30.00 / 29.71	inHg	29.71	inHg	29.92	29.71	0.00%	Pass

INSTRUMENT CALIBRATION REPORT

Advanced Labs, Inc.

A-Tech Testing

Instrument ID T75451842011
Description TSI 7545 IAQ-Calc
Calibrated 12/21/2020

Test Instruments Used During the Calibration

Test Instrument ID	Description	Manufacturer	Serial Number	(As Of Cal Entry Date) Last Cal Date	Next Cal Date
CO/CO2_105L-375	100ppm CO, 1000ppm CO2	Specialty Gases of America, Inc.	MBI-375-2	12/1/2018	12/11/2022
MICHELL DM-509-TX-01	Relative Humidity Meter	Michell	273296	11/3/2020	11/3/2021
NITROGEN_UHP	Nitrogen 99.999%	Liquid Technology	31821	12/1/2018	12/1/2023
OMEGA HX93AC/DP25-E	Omega HX93AC/DP25-E	Omega Engineering	1010368 035025 035026	11/25/2020	11/25/2022
OMEGA PX02K1-16A5T /DP25-E-A	Omega PX02K1-16A5T/DP25-E-A	Omega Engineering	168377/8375030	11/25/2020	11/25/2022
OMEGA WT4401-D	Omega WT4401-D	Omega Engineering	101105	11/25/2020	11/25/2022
ZERO_AIR	Zero Grade Air THC <1.0 PPM	Liquid Technology	31845	3/1/2019	3/21/2023

Notes about this calibration

Calibration Result Calibration Successful
Who Calibrated Kevin Cole

Advanced Labs, Inc. hereby certifies that this instrument is calibrated and functions to meet the manufacture's specifications using NIST traceable standards, or is derived from accepted values of physical constants.

INSTRUMENT CALIBRATION REPORT

Advanced Labs, Inc.

A-Tech Testing

Instrument ID CM19362009
Description Thermo PDR-1500 Aerosol Monitor
Calibrated 12/7/2020

Manufacturer Thermo
Model Number PDR-1500
Serial Number CM19362009
Location New Jersey
Temp 70

Classification
Status Pass
Frequency Yearly
Department Lab
Humidity 25

Calibration Specifications

Group # 1
Group Name Arizona Road Test Dust
Test Performed: Yes **As Found Result: Pass** **As Left Result: Pass**

Test Instruments Used During the Calibration

Test Instrument ID	Description	Manufacturer	Serial Number	(As Of Cal Entry Date) Last Cal Date	Next Cal Date
DR-4 MASTER D780	Thermo DataRAM-4000 Master	Thermo	D780	3/6/2020	3/6/2021

Notes about this calibration

Calibration Ratio: 1.15

Calibration Result Calibration Successful
Who Calibrated David Galego

Advanced Labs, Inc. hereby certifies that this instrument is calibrated and functions to meet the manufacture's specifications using NIST traceable standards, or is derived from accepted values of physical constants.