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# LIMITED INDOOR AIR QUALITY ASSESSMENT

# Charles H. Lee Elementary School

550 North Cerritos Avenue

City of Azusa County of Los Angeles State of California

Project Number: Atch-211875

August 6, 2021

PREPARED FOR:

**Azusa Unified School District** 

# PRIVILEGED & CONFIDENTIAL

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# INDOOR AIR QUALITY

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Atch-211875 Limited Indoor Air Quality Assessment 550 North Cerritos Avenue Azusa, California 91702

August 6, 2021

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

Attn: Mr. Brian Allen

Re: Charles H. Lee Elementary

550 North Cerritos Avenue, 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 Charles H. Lee Elementary located at 550 North Cerritos Avenue, in Azusa, California. The following report summarizes the findings of this assessment.

#### 1.0 BACKGROUND

From June 13, 2021 to June 14, 2021, Industrial Hygiene Technician Matt Page, 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 Charles H. Lee Elementary regarding poor indoor air quality. These concerns were limited to the twenty-eight (28) areas surveyed during this assessment: Classrooms 1 through 27 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.

#### 2.0 METHODOLOGY

As a precautionary measure, sampling of relative humidity (RH), temperature (T), carbon dioxide (CO<sub>2</sub>), 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.

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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:

<u>Unit</u>	Parameter(s)	Interval (seconds)	Sampling Duration (min)
TSI 7545 IAQCalc	Temperature Relative Humidity CO <sub>2</sub> 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<sub>2</sub>), Carbon Monoxide (CO), Air Temperature and Relative Humidity

Carbon dioxide (CO<sub>2</sub>), 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<sub>2</sub>, CO, air temperature and relative humidity can be found in the following table.

<u>Parameter</u>	Range	<u>Accuracy</u>	<u>Resolution</u>
Carbon Dioxide (CO <sub>2</sub> )	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  $<4.0 \,\mu m$  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.

<u>Parameter</u>	Range	<u>Accuracy</u>	<u>Resolution</u>
Aerosol	$0.001 \text{ to } 400 \text{ mg/m}^3$	±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<sup>TM</sup> 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 thirty (30) 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/m³). 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.

#### 3.0 DISCUSSION

### 3.1 <u>Indoor Air Quality</u>

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 do 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/m³) reported from the interior to the total spores/m³ reported from the exterior. The total interior spore count should not exceed the total exterior spore count concentration by any excessive magnitudes.

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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.

#### 4.0 ANALYTICAL RESULTS

#### 4.1 Air Flow and Carbon Dioxide (CO<sub>2</sub>) 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<sub>2</sub> concentrations increase as a result of human occupancy and the lower the amount of outside air entering the room, the higher the CO<sub>2</sub> 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<sub>2</sub> concentrations no greater than 700 parts per million (ppm) above exterior CO<sub>2</sub> concentrations will satisfy a substantial majority (about 80%) of occupants (assuming exterior supply rate of 15 cfm/person). Thus, to determine if CO<sub>2</sub> levels are a concern, a CO<sub>2</sub> differential is calculated by subtracting the average interior CO<sub>2</sub> concentration from the exterior CO<sub>2</sub> concentration for each inspected area of concern.

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 <u>Air Temperature</u>

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.

In one (1) of the twenty-eight (28) interior areas of concern surveyed during this assessment, the average air temperature recorded **was outside** the ASHRAE recommended comfort ranges. Based on the general guidelines of the ASHRAE Standard 55, which assumes typical conditions for types of clothing, air movement, radiant heat and other complex factors, the temperatures recorded in the following areas of concern were outside recommended ranges:

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Sample Number	Sample Location	Average Temperature (°F)
211875-I-0017	Computer Lab	83.3

Average air temperatures recorded for the remaining interior areas of concern **were within** the ASHRAE recommended comfort ranges. 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  $2.5\mu m$  or smaller. Ultrafine Particles (particles with aerodynamic diameters less than  $1~\mu m$ ) 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 fraction of total dust are 10 mg/m³ and 5 mg/m³ respectively.

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 <u>Non-Viable Mold Air Sampling</u>

Results for fungal air sampling are reported as spores per cubic meter (spores/m³), per industrial genre is identified. The individual results are then totaled into total spores per cubic meter (spores/m³). To determine if mold proliferation exists, counts of indicator spores are compared to counts present in the outdoor, exterior environments.

A total of thirty (30) mold air samples were obtained during this assessment, including two (2) exterior samples. It was determined that eight (8) interior samples had 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	<u>Prominent Mold - Genre Level</u> (spores/m³)	Total Mold Spores (spores/m³)
211875-MA-0001	Exterior	Aspergillus/Penicillium - 700 Cladosporium - 580 Chaetomium - 20 Stachybotrys - 0 Alternaria - 0 Ascospores - 180 Basidiospores - 120 Bipolaris - 40 Epicoccum - 0 Nigrospora - 0 Periconia, Myxomycetes, Smuts - 80 Miscellaneous Spores - 0	1,740*
211875-MA-0004	Classroom 4	Aspergillus/Penicillium - 400 Cladosporium - 480 Ascospores - 40 Basidiospores - 120 Periconia, Myxomycetes, Smuts - 360	1,400
211875-MA-0005	Classroom 8	Aspergillus/Penicillium - 720  Cladosporium - 760  Alternaria - 40  Ascospores - 80  Epicoccum - 40  Periconia, Myxomycetes, Smuts - 40	1,380
211875-MA-0006	Classroom 20	Aspergillus/Penicillium - 560  Cladosporium - 880  Ascospores - 120  Basidiospores - 160  Epicoccum - 40  Nigrospora - 40  Periconia, Myxomycetes, Smuts - 200	2,000

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Sample Number	Room/Area	<u>Prominent Mold - Genre Level</u> (spores/m³)	Total Mold Spores (spores/m³)
211875-MA-0007	Classroom 21	Aspergillus/Penicillium - 240 Cladosporium - 2,160 Chaetomium - 40 Basidiospores - 40 Miscellaneous Spores - 40	2,520
211875-MA-0011	Classroom 22/Library	Aspergillus/Penicillium - 1,040 Cladosporium - 80 Basidiospores - 120 Bipolaris - 40 Epicoccum - 120 Periconia, Myxomycetes, Smuts - 40	1,440
211875-MA-0017	Computer Lab	Aspergillus/Penicillium - 1,000 Cladosporium - 640 Alternaria - 200 Ascospores - 160 Basidiospores - 160 Periconia, Myxomycetes, Smuts - 480 Miscellaneous Spores - 40	2,680
211875-MA-0022	Classroom 12	Aspergillus/Penicillium - 720 Cladosporium - 280 Basidiospores - 120	1,120
211875-MA-0029	Classroom 1	Aspergillus/Penicillium - 1,080 Cladosporium - 360 Stachybotrys - 80 Alternaria - 40 Ascospores - 80 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 240	1,920
211875-MA-0030	Exterior	Aspergillus/Penicillium - 440 Cladosporium - 520 Chaetomium - 0 Stachybotrys - 0 Alternaria - 0 Ascospores - 40 Basidiospores - 60 Bipolaris - 20 Epicoccum - 0 Nigrospora - 20 Periconia, Myxomycetes, Smuts - 100 Miscellaneous Spores - 0	1,240*

<sup>\*</sup>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<sup>3</sup>

#### 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.

#### Cladosporium

Cladosporium is a fungal genre that can grow indoors and outdoors. Cladosporium is commonly found in areas with humidity, moisture, and water damage, so it is more prone to be found in wet or damp areas such as bathrooms and basements. If high levels of Cladosporium are present in an area, some occupants (particularly those with family histories of allergies or chronic respiratory problems) may experience allergic reactions including serious asthma attacks.

#### Periconia

Periconia is a common outdoor fungus commonly found on stalks of grasses, herbaceous stems, dead leaves or leaf spots. They are found on soil, blackened and dead plants, and are associated with other fungi. Periconia is a potential allergen associated with hay fever and asthma effects.

## Smuts

Smuts are found on cereal crops, grasses, weeds, and other fungi. They are commonly associated a black powder-like substance that causes plant diseases. Exposure to Smuts can lead to allergies, such as hay fever and asthma.

#### Myxomycetes

Myxomycetes are characterized as slime molds due to wet and dry spore phases. These funguslike organisms typically grow in cool, shady, moist locations and survive on decaying wood, leaves or other organic matter that retain large amounts of moisture. Exposure to Myxomycetes can lead to allergies, such as hay fever and asthma.

#### Stachybotrys

Stachybotrys is a fungal genre commonly referred to as 'black mold.' It was identified in the air sample collected from Classroom 1. Long-term exposure to Stachybotrys can result in health problems, particularly in individuals with respiratory conditions and other risk factors. Although the detected spore counts were less than 300 spores/m³, and therefore are not considered elevated by A-Tech, further sampling and additional decontamination recommendations within this area may be warranted.

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.

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#### 5.0 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 are three (3) areas of improvement in air quality in the assessed survey site.

#### Air Temperature

Interior air temperatures **were outside** the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) standard recommended comfort ranges in the following areas of concern:

## Computer Lab

#### 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:

- Classroom 1
- Classroom 4
- Classroom 8
- Classroom 12
- Classroom 20
- Classroom 21
- Classroom 22
- 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:

- 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.

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 area(s) of concern where indoor air temperature was outside of ASHRAE recommended comfort ranges:
  - a. Ensure that temperature control is in the range of 67-82°F.
- 2. 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.

#### 6.0 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





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

Client Name: Azusa Unified School District

A-Tech Project Number: 211875

Location: Charles H. Lee Elementary, 550 North Cerritos Avenue

					<u>CO</u>	2 Conce (ppm		· · · · ·	oncentration (ppm)	<u>Ter</u>	nperatı	are (°F)	<u>Humidity (%)</u>		
<u>Sample</u> <u>Number</u>	<u>Start</u> <u>Time</u>	End Time	<u>Duration</u>	Sample Location	Min.	Max.	Average	Max.	Average	Min.	Max.	Average	Min.	Max.	Average
211875-I-0001	9:09 AM	9:19 AM	0:10	Exterior	417	449	429	0.8	0.2	73.3	77.2	75.4	64.4	72.5	68.1
211875-I-0002	9:39 AM	9:49 AM	0:10	Classroom 2	436	465	451	1.2	0.3	72.0	79.0	76.1	47.6	57.1	51.4
211875-I-0003	9:53 AM	10:03 AM	0:10	Classroom 3	439	481	454	0.4	0.1	73.3	75.5	74.8	47.4	61.6	52.5
211875-I-0004	10:05 AM	10:15 AM	0:10	Classroom 4	434	459	441	0.5	0.1	74.9	78.6	77.4	58	62.5	59.4
211875-I-0005	10:19 AM	10:29 AM	0:10	Classroom 8	470	489	479	0.5	0.1	73.8	78.5	76.4	47.7	54.6	50.7
211875-I-0006	10:37 AM	10:47 AM	0:10	Classroom 20	430	465	443	0.6	0.2	69.5	78.6	74.5	53.3	59.8	56.6



					<u>co</u>	CO2 Concentration (ppm)		CO Concentration (ppm)			<u> Temperature (°F)</u>			<u>Humidity (%)</u>		
<u>Sample</u> <u>Number</u>	<u>Start</u> <u>Time</u>	End Time	<u>Duration</u>	Sample Location	Min.	Max.	<u>Average</u>	Max.	<u>Average</u>	Min.	Max.	Average	Min.	Max.	Average	
211875-I-0007	10:51 AM	11:01 AM	0:10	Classroom 21	435	461	444	0.7	0.2	73	76.8	75.5	54	64.7	56.2	
211875-I-0008	11:04 AM	11:14 AM	0:10	Classroom 19	434	505	447	0.3	0.1	72.4	75.1	74.0	47.4	53.5	49.2	
211875-I-0009	11:17 AM	11:27 AM	0:10	Classroom 18	433	477	439	0.4	0.1	75.5	81.7	79.8	50.8	61.1	53.7	
211875-I-0010	11:29 AM	11:39 AM	0:10	Classroom 17	424	447	435	0.4	0.1	76.6	80.5	77.7	41.3	46.0	44.8	
211875-I-0011	11:42 AM	11:52 AM	0:10	Classroom 22	431	475	447	1.3	0.8	72.2	79.8	75.4	54.7	62.2	59.0	
211875-I-0012	11:55 AM	12:05 PM	0:10	Classroom 27	493	548	504	0.8	0.3	73.4	75.6	74.7	48.1	54.2	49.8	
211875-I-0013	12:06 PM	12:16 PM	0:10	Classroom 26	464	501	479	0.5	0.1	70.4	73.4	72.0	45.9	47.7	46.4	
211875-I-0014	12:18 PM	12:28 PM	0:10	Classroom 25	443	469	454	0.7	0.3	71.7	74.7	73.7	45.9	52.3	48.1	
211875-I-0015	12:31 PM	12:41 PM	0:10	Classroom 24	435	469	446	0.3	0.1	76	81.5	79.2	59.1	70.4	62.5	



					<u>co</u>	2 Concer (ppm			oncentration (ppm)	<u>Ten</u>	nperatı	ıre (°F)	<u>H</u>	umidit	v (%)
<u>Sample</u> <u>Number</u>	<u>Start</u> <u>Time</u>	End Time	<b>Duration</b>	Sample Location	Min.	Max.	Average	Max.	Average	Min.	Max.	Average	Min.	Max.	Average
211875-I-0016	12:44 PM	12:54 PM	0:10	Classroom 23	426	463	444	1.0	0.5	70.7	78.9	74.0	41.4	51.3	46.3
211875-I-0017	2:46 PM	2:56 PM	0:10	Computer Lab	424	468	440	0.3	0.0	79.2	85.8	83.3	49.9	60.5	53.7
211875-I-0018	3:02 PM	3:12 PM	0:10	Classroom 16	669	817	792	0.5	0.1	72.8	81.8	76.4	41.0	55.2	51.4
211875-I-0019	3:14 PM	3:24 PM	0:10	Classroom 15	582	667	593	0.2	0.0	72.1	75.6	74.0	49.3	54.4	51.3
211875-I-0020	3:26 PM	3:36 PM	0:10	Classroom 14	869	906	890	0.2	0.0	72.4	73.7	73.0	57.0	66.3	62.5
211875-I-0021	3:37 PM	3:47 PM	0:10	Classroom 13	515	777	536	0.2	0.0	73.9	74.6	74.2	60.4	64.4	62.5
211875-I-0022	3:50 PM	4:00 PM	0:10	Classroom 12	664	719	673	0.3	0.0	75.8	78.2	77.3	48.7	62.8	52.8
211875-I-0023	4:01 PM	4:11 PM	0:10	Classroom 11	436	477	443	0.2	0.0	71.2	76.0	73.7	53.9	62.8	60.2
211875-I-0024	4:12 PM	4:22 PM	0:10	Classroom 10	419	442	428	0.3	0.0	70.3	71.8	71.0	53.3	67.2	62.2
211875-I-0025	4:25 PM	4:35 PM	0:10	Classroom 9	621	652	633	0.3	0.0	70	73.9	72.2	45.7	50.2	46.6
211875-I-0026	4:37 PM	4:47 PM	0:10	Classroom 7	451	518	462	0.3	0.0	69.4	71.3	70.1	43.5	48.7	45.4



						2 Conce	ntration 1)	CO Co	<u>Temperature (°F)</u>			Humidity (%)			
<u>Sample</u> <u>Number</u>	<u>Start</u> <u>Time</u>	End Time	<u>Duration</u>	Sample Location	Min.	Max.	Average	Max.	Average	Min.	Max.	Average	Min.	Max.	Average
211875-I-0027	4:49 PM	4:59 PM	0:10	Classroom 6	434	484	442	0.2	0.0	71.5	74.5	73.4	44.9	49.2	46.2
211875-I-0028	5:00 PM	5:10 PM	0:10	Classroom 5	447	481	461	0.2	0.0	73.3	75.1	74.1	46.2	50.3	49.0
211875-I-0029	5:12 PM	5:22 PM	0:10	Classroom 1	428	454	438	0.2	0.0	75.8	77.5	76.7	43.2	46.2	44.2
211875-I-0030	5:23 PM	5:33 PM	0:10	Exterior	378	411	390	0.2	0.0	81.5	90.7	88.6	28.2	43.4	30.8

# Legend:

N/A = Not Applicable



# **Continuous Aerosol Monitoring Measurements (ThermoScientific pDR1500)**

Client Name: Azusa Unified School District

A-Tech Project Number: 211875

Location: Charles H. Lee Elementary, 550 North Cerritos Avenue

					Aerosol C	oncentration (µg/m³)
Sample Number	Start Time	End Time	Duration (min)	Sample Location	<u>Max.</u>	<u>Average</u>
211875-P-0001	9:09 AM	9:19 AM	10	Exterior	62.05	48.33
211875-P-0002	9:39 AM	9:49 AM	10	Classroom 2	25.17	22.21
211875-P-0003	9:53 AM	10:03 AM	10	Classroom 3	17.82	9.64
211875-P-0004	10:05 AM	10:15 AM	10	Classroom 4	25.12	20.59
211875-P-0005	10:19 AM	10:29 AM	10	Classroom 8	18.23	15.46
211875-P-0006	10:37 AM	10:47 AM	10	Classroom 20	24.64	19.23
211875-P-0007	10:51 AM	11:01 AM	10	Classroom 21	20.07	17.69
211875-P-0008	11:04 AM	11:14 AM	10	Classroom 19	21.52	16.55
211875-P-0009	11:17 AM	11:27 AM	10	Classroom 18	50.89	15.26
211875-P-0010	11:29 AM	11:39 AM	10	Classroom 17	12.01	11.36



					Aerosol C	oncentration (µg/m³)
Sample Number	Start Time	End Time	<u>Duration</u> (min)	Sample Location	Max.	<u>Average</u>
211875-P-0011	11:42 AM	11:52 AM	10	Classroom 22	14.91	9.99
211875-P-0012	11:55 AM	12:05 PM	10	Classroom 27	11.39	9.45
211875-P-0013	12:06 PM	12:16 PM	10	Classroom 26	10.91	9.91
211875-P-0014	12:18 PM	12:28 PM	10	Classroom 25	21.97	10.83
211875-P-0015	12:31 PM	12:41 PM	10	Classroom 24	7.76	6.39
211875-P-0016	12:44 PM	12:54 PM	10	Classroom 23	14.94	11.08
211875-P-0017	2:46 PM	2:56 PM	10	Computer Lab	23.13	16.56
211875-P-0018	3:02 PM	3:12 PM	10	Classroom 16	20.17	7.54
211875-P-0019	3:14 PM	3:24 PM	10	Classroom 15	11.02	9.06
211875-P-0020	3:26 PM	3:36 PM	10	Classroom 14	15.65	6.08
211875-P-0021	3:37 PM	3:47 PM	10	Classroom 13	9.08	6.62
211875-P-0022	3:50 PM	4:00 PM	10	Classroom 12	11.37	10.54



					Aerosol C	oncentration (µg/m³)
Sample Number	Start Time	End Time	<u>Duration</u> (min)	Sample Location	<u>Max.</u>	<u>Average</u>
211875-P-0023	4:01 PM	4:11 PM	10	Classroom 11	7.91	5.74
211875-P-0024	4:12 PM	4:22 PM	10	Classroom 10	7.02	6.26
211875-P-0025	4:25 PM	4:35 PM	10	Classroom 9	12.62	7.19
211875-P-0026	4:37 PM	4:47 PM	10	Classroom 7	7.74	7.25
211875-P-0027	4:49 PM	4:59 PM	10	Classroom 6	8.67	7.85
211875-P-0028	5:00 PM	5:10 PM	10	Classroom 5	7.73	6.74
211875-P-0029	5:12 PM	5:22 PM	10	Classroom 1	23.83	17.32
211875-P-0030	5:23 PM	5:33 PM	10	Exterior	11.71	9.95

Legend:

N/A = Not Applicable



# **Mold Air Sample Summary**

Location: Charles H. Lee Elementary, 550 North Cerritos Avenue Client Name: Azusa Unified School District

<u>Sample</u> <u>Number</u>	Sample Date & Time	Sample Location	Sample Description	<u>Sampling</u> <u>Time</u>	<u>Liters</u> <u>Per</u> <u>Min</u>	Temp./Humidity	<u>Prominent Mold - Genre</u> <u>Level (spores/m³)</u>	Total Mold Spores (spores/m³)
211875- MA-0001	7/14/2021 9:00 AM	Exterior	Ambient	10 Min.	15	74.0 °F / 70.0%	Aspergillus/Penicillium - 700 Cladosporium - 580 Chaetomium - 20 Stachybotrys - 0 Alternaria - 0 Ascospores - 180 Basidiospores - 120 Bipolaris - 40 Epicoccum - 0 Nigrospora - 0 Periconia, Myxomycetes, Smuts - 80 Miscellaneous Spores - 0	1,740*
211875- MA-0002	7/13/2021 9:12 AM	Classroom 2	Background	5 Min.	15	73.0 °F / 53.5%	Aspergillus/Penicillium - 520 Cladosporium - 520 Alternaria - 40 Ascospores - 40 Basidiospores - 160 Periconia, Myxomycetes, Smuts - 120	1,400
211875- MA-0003	7/13/2021 9:40 AM	Classroom 3	Background	5 Min.	15	74.0 °F / 52.0%	Aspergillus/Penicillium - 840 Cladosporium - 160 Ascospores - 40 Basidiospores - 80 Bipolaris - 80 Periconia, Myxomycetes, Smuts - 120	1,320



<u>Sample</u> <u>Number</u>	Sample Date & Time	Sample Location	Sample Description	Sampling Time	<u>Liters</u> <u>Per</u> <u>Min</u>	Temp./Humidity	Prominent Mold - Genre Level (spores/m³)	Total Mold Spores (spores/m³)
211875- MA-0004	7/13/2021 10:25 AM	Classroom 4	Background	5 Min.	15	77.0 °F / 58.0%	Aspergillus/Penicillium - 400 Cladosporium - 480 Ascospores - 40 Basidiospores - 120 Periconia, Myxomycetes, Smuts - 360	1,400
211875- MA-0005	7/13/2021 10:26 AM	Classroom 8	Background	5 Min.	15	74.0 °F / 48.4%	Aspergillus/Penicillium - 720 Cladosporium - 760 Alternaria - 40 Ascospores - 80 Epicoccum - 40 Periconia, Myxomycetes, Smuts - 40	1,380
211875- MA-0006	7/13/2021 10:27 AM	Classroom 20	Background	5 Min.	15	74.0 °F / 55.1%	Aspergillus/Penicillium - 560 Cladosporium - 880 Ascospores - 120 Basidiospores - 160 Epicoccum - 40 Nigrospora - 40 Periconia, Myxomycetes, Smuts - 200	2,000
211875- MA-0007	7/13/2021 10:34 AM	Classroom 21	Background	5 Min.	15	75.2 °F / 54.8%	Aspergillus/Penicillium - 240 Cladosporium - 2,160 Chaetomium - 40 Basidiospores - 40 Miscellaneous Spores - 40	2,520
211875- MA-0008	7/13/2021 10:42 AM	Classroom 19	Background	5 Min.	15	74.5 °F / 50.1%	Aspergillus/Penicillium - 160 Cladosporium - 80 Alternaria - 80 Ascospores - 40 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 80 Miscellaneous Spores - 40	520



Sample Number	Sample Date & Time	Sample Location	Sample Description	Sampling Time	<u>Liters</u> <u>Per</u> <u>Min</u>	Temp./Humidity	Prominent Mold - Genre Level (spores/m³)	Total Mold Spores (spores/m³)
211875- MA-0009	7/13/2021 10:56 AM	Classroom 18	Background	5 Min.	15	78.0 °F / 55.2%	Aspergillus/Penicillium - 200 Cladosporium - 280 Ascospores - 80 Basidiospores - 80 Periconia, Myxomycetes, Smuts - 200	840
211875- MA-0010	7/13/2021 11:11 AM	Classroom 17	Background	5 Min.	15	78.0 °F / 44.1%	Aspergillus/Penicillium - 320 Cladosporium - 80 Periconia, Myxomycetes, Smuts - 120	520
211875- MA-0011	7/13/2021 11:25 AM	Classroom 22	Background	5 Min.	15	73.7 °F / 61.5%	Aspergillus/Penicillium - 1,040 Cladosporium - 80 Basidiospores - 120 Bipolaris - 40 Epicoccum - 120 Periconia, Myxomycetes, Smuts - 40	1,440
211875- MA-0012	7/13/2021 11:42 AM	Classroom 27	Background	5 Min.	15	75.2 °F / 50.3%	Aspergillus/Penicillium - 80 Cladosporium - 160 Alternaria - 40 Ascospores - 80 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 80 Miscellaneous Spores - 40	520
211875- MA-0013	7/14/2021 11:58 AM	Classroom 26	Background	5 Min.	15	72.6 °F / 46.4%	Aspergillus/Penicillium - 280 Cladosporium - 80 Alternaria - 40 Ascospores - 40 Basidiospores - 120	560
211875- MA-0014	7/14/2021 12:09 PM	Classroom 25	Background	5 Min.	15	72.9 °F / 50.4%	Aspergillus/Penicillium - 480 Cladosporium - 200 Basidiospores - 80 Epicoccum - 40	800



<u>Sample</u> <u>Number</u>	Sample Date & Time	Sample Location	Sample Description	Sampling Time	<u>Liters</u> <u>Per</u> <u>Min</u>	Temp./Humidity	<u>Prominent Mold - Genre Level (spores/m³)</u>	Total Mold Spores (spores/m³)
211875-MA- 0015	7/14/2021 12:20 PM	Classroom 24	Background	5 Min.	15	76.9 °F / 65.2%	Aspergillus/Penicillium - 680 Cladosporium - 240 Alternaria - 40 Ascospores - 80 Basidiospores - 120 Periconia, Myxomycetes, Smuts - 200 Miscellaneous Spores - 80	1,440
211875-MA- 0016	7/14/2021 12:33 PM	Classroom 23	Background	5 Min.	15	76.0 °F / 44.5%	Aspergillus/Penicillium - 280 Cladosporium - 160 Basidiospores - 80 Periconia, Myxomycetes, Smuts - 80	600
211875-MA- 0017	7/14/2021 2:51 PM	Computer Lab	Background	5 Min.	15	83.0 °F / 53.6%	Aspergillus/Penicillium - 1,000 Cladosporium - 640 Alternaria - 200 Ascospores - 160 Basidiospores - 160 Periconia, Myxomycetes, Smuts - 480 Miscellaneous Spores - 40	2,680
211875-MA- 0018	7/14/2021 2:52 PM	Classroom 16	Background	5 Min.	15	74.5 °F / 51.8%	Aspergillus/Penicillium - 200 Cladosporium - 80 Alternaria - 80 Basidiospores - 80 Periconia, Myxomycetes, Smuts - 80	520
211875-MA- 0019	7/14/2021 3:06 PM	Classroom 15	Background	5 Min.	15	73.5 °F / 52.5%	Aspergillus/Penicillium - 440 Cladosporium - 120 Basidiospores - 80 Periconia, Myxomycetes, Smuts - 40	680



<u>Sample</u> <u>Number</u>	Sample Date & Time	Sample Location	Sample Description	Sampling Time	<u>Liters</u> <u>Per</u> <u>Min</u>	Temp./Humidity	Prominent Mold - Genre Level (spores/m³)	Total Mold Spores (spores/m³)
211875-MA- 0020	7/14/2021 3:17 PM	Classroom 14	Background	5 Min.	15	71.5 °F / 58.3%	Aspergillus/Penicillium - 160 Cladosporium - 80 Ascospores - 40 Basidiospores - 200 Periconia, Myxomycetes, Smuts - 40	520
211875-MA- 0021	7/14/2021 3:28 PM	Classroom 13	Background	5 Min.	15	72.5 °F / 61.1%	Aspergillus/Penicillium - 120 Cladosporium - 40 Basidiospores - 80	240
211875-MA- 0022	7/14/2021 3:40 PM	Classroom 12	Background	5 Min.	15	77.0 °F / 58.2%	Aspergillus/Penicillium - 720 Cladosporium - 280 Basidiospores - 120	1,120
211875-MA- 0023	7/14/2021 3:52 PM	Classroom 11	Background	5 Min.	15	71.5 °F / 59.5%	Aspergillus/Penicillium - 320 Cladosporium - 40 Ascospores - 80 Basidiospores - 200 Periconia, Myxomycetes, Smuts - 40	680
211875-MA- 0024	7/14/2021 4:04 PM	Classroom 10	Background	5 Min.	15	70.7 °F / 63.6%	Aspergillus/Penicillium - 160 Cladosporium - 160 Alternaria - 40 Ascospores - 40 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 80 Miscellaneous Spores - 40	560
211875-MA- 0025	7/14/2021 4:19 PM	Classroom 9	Background	5 Min.	15	71.8 °F / 46.3%	Aspergillus/Penicillium - 760 Cladosporium - 120 Alternaria - 40 Ascospores - 40 Basidiospores - 120 Bipolaris - 40	1,120



<u>Sample</u> <u>Number</u>	Sample Date & Time	Sample Location	Sample Description	Sampling Time	<u>Liters</u> <u>Per</u> <u>Min</u>	Temp./Humidity	Prominent Mold - Genre Level (spores/m³)	Total Mold Spores (spores/m³)
211875-MA- 0026	7/14/2021 4:27 PM	Classroom 7	Background	5 Min.	15	70.8 °F / 43.6%	Aspergillus/Penicillium - 280 Cladosporium - 240 Ascospores - 40 Basidiospores - 80	640
211875-MA- 0027	7/14/2021 4:40 PM	Classroom 6	Background	5 Min.	15	72.0 °F / 47.1%	Aspergillus/Penicillium - 400 Cladosporium - 160 Ascospores - 40 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 40	680
211875-MA- 0028	7/14/2021 4:52 PM	Classroom 5	Background	5 Min.	15	71.6 °F / 49.8%	Aspergillus/Penicillium - 480 Cladosporium - 120 Epicoccum - 40 Periconia, Myxomycetes, Smuts - 120	760
211875-MA- 0029	7/14/2021 5:15 PM	Classroom 1	Background	5 Min.	15	74.0 °F / 44.5%	Aspergillus/Penicillium - 1,080 Cladosporium - 360 Stachybotrys - 80 Alternaria - 40 Ascospores - 80 Basidiospores - 40 Periconia, Myxomycetes, Smuts - 240	1,920



Sample Number	Sample Date & Time	Sample Location	Sample Description	Sampling Time	<u>Liters</u> <u>Per</u> <u>Min</u>	Temp./Humidity	Prominent Mold - Genre Level (spores/m³)	Total Mold Spores (spores/m³)
211875- MA-0030	7/14/2021 5:15 PM	Exterior	Ambient	10 Min.	15	90.0 °F / 30.0%	Aspergillus/Penicillium - 440 Cladosporium - 520 Chaetomium - 0 Stachybotrys - 0 Alternaria - 0 Ascospores - 40 Basidiospores - 60 Bipolaris - 20 Epicoccum - 0 Nigrospora - 20 Periconia, Myxomycetes, Smuts - 100 Miscellaneous Spores - 0	1,240*

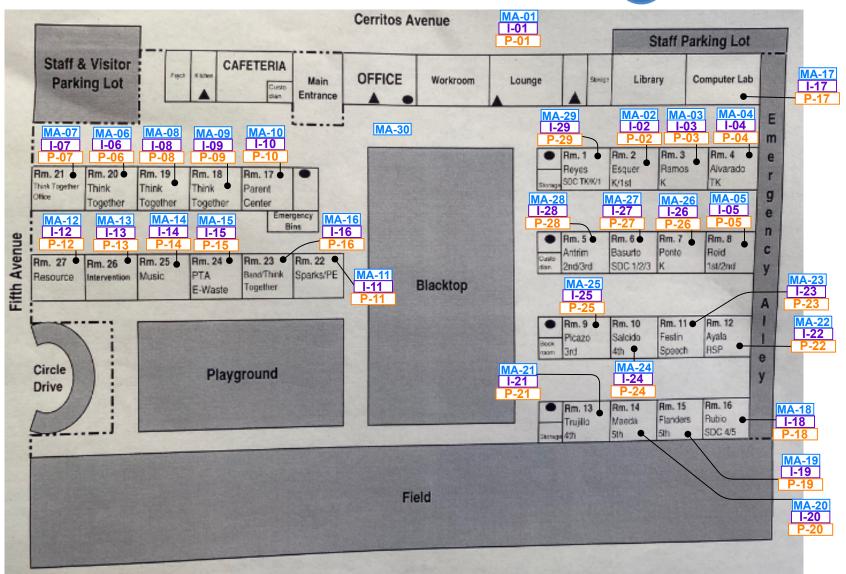
<sup>\*</sup>Note: Total mold spore count reflects all genres detected in the exterior sample, including the genres not detected in the interior sample obtained.

#### 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

Mold Air Sample Summary





# Lee Elementary School

# Site Drawing - Indoor Air Quality- Page 1 of 1

Charles H. Lee Elementary School 550 North Cerritos Avenue Azusa, California 91702

**Project #: Atch-211875** 

**Azusa Unified School District** 

#### **LEGEND:**

I = IAQCalc Sample Locations
P = PDR1500 Sample Locations

MA = Mold Air Sample Locations

Client Name: Azusa Unified School District



# **Digital Photographs - IAQ**

Locations: Charles H. Lee Elementary, 550 North Cerritos Avenue



View of Classroom 20



View of Classroom 26



Phone:(562) 860-2201 www.aihlab.com

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

Laboratory Sample ID:	211146201	211146202	211146203
Client Sample ID:	MA-0001	MA-0002	MA-0003
Sample Location:	Exterior	1st Floor, Classroom 2	1st Floor, Classroom 3
Comments:	None	None	None

### **Quantitative Analysis**

Quantitative Arialysis		D 0		04 <b>T</b> - 4 - 1	B 0	3	0/ <b>T</b> -/-1	B 6	la , 3	0/ T-/-I
			•			Spores/m <sup>3</sup>			-	
Inside/Outside	Aspergillus/Penicillium-like	35	700	40.2	13	520	37.1	21	840	63.6
orac, Catorac	Cladosporium	29	580	33.3	13	520	37.1	4	160	12.1
	Chaetomium	1	20	1.1	-	-	-	-	-	-
Water Damage Indication	Stachybotrys	-	-	-	-	-	-	-	-	-
water Damage indication	Trichoderma	-	-	-	-	-	-	-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
	Alternaria	-	-	-	1	40	2.9	-	-	-
	Ascospores	9	180	10.3	1	40	2.9	1	40	3
	Basidiospores	6	120	6.9	4	160	11.4	2	80	6.1
	Bipolaris	2	40	2.3	1	-	-	2	80	6.1
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	1	-	-	-	-	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	4	80	4.6	3	120	8.6	3	120	9.1
Outdoor Environment	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	1	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-	-	-
	Torula	-	-	-	-	-	-	< -	-	-
	Miscellaneous Spores	-	-	-	-	-	-	-	-	-
	Ganoderma	1	20	1.1	-	-/-	-		-	1
						1				
	Total	87	1740	100	35	1400	100	33	1320	100



Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

Laboratory Sample ID: Client Sample ID: Sample Location:	211146201 MA-0001 Exterior	211146202 MA-0002 1st Floor, Classroom 2	211146203 MA-0003 1st Floor, Classroom 3
Sample Collection Data  Total Time:			
Flow Rate:			
Volume:	150	75	75
Qualitative Analysis			
Skin Fragments- 1 to 5 (low to high):	1	3	2
Background/m3- 1 to 5 (low to high):	4	4	4
Hyphal Fragments- 1 to 5 (low to high):	2	1	1





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Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

....

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

Laboratory Sample ID:	ratory Sample ID: 211146204		211146206
Client Sample ID:	MA-0004	MA-0005	MA-0006
Sample Location:	1st Floor, Classroom 4	1st Floor, Classroom 8	1st Floor, Classroom 20
Comments:	None	None	None

### **Quantitative Analysis**

Quantitative Analysis		Raw Counts	Sporos/m³	% Total	Raw Counts	Sporos/m³	% Total	Paw Courts	Spores/m <sup>3</sup>	% Total
	Aspergillus/Penicillium-like	10	400	28.6	18	720	42.9	14	560	28
Inside/Outside	Cladosporium	12	480	34.3	19	760	45.2	22	880	44
	Chaetomium	-	-	-	-	-	-	-	-	-
Water Damage	Stachybotrys	-	-	-	-	-	-	-	-	-
Indication	Trichoderma	-	-	-	-	-	-	-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
	Alternaria	-	-	ı	1	40	2.4	-	-	-
	Ascospores	1	40	2.9	2	80	4.8	3	120	6
	Basidiospores	3	120	8.6	-	ı	-	4	160	8
	Bipolaris	-	-	-	-	-	-	-	-	-
	Curvularia	-	-	ı	-	ı	-	-	-	-
	Epicoccum	-	-	-	1	40	2.4	1	40	2
	Nigrospora	-	-	-	-	-	-	1	40	2
	Periconia/Myxo/Smut	9	360	25.7	1	40	2.4	5	200	10
Outdoor Environment	Pithomyces	-	-	ı	-	ı	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	ı	-	ı	-	-	-	-
	Tetraploa	-	-	-	-	1	-	-	-	-
	Torula	-	-	-	-	-	-	/ <b>-</b>	-	-
	Miscellaneous Spores	-	-	-	-	-	-	-	-	
	Ganoderma	-	-	-	-	-//	-		-	
									7	
	Total	35	1400	100	42	1680	100	50	2000	100



2556 W Woodland Dr Anaheim, CA 92801

#### **MOLD AIR SAMPLE REPORT**

Phone:(562) 860-2201 www.aihlab.com

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#**: 203769

Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

Laboratory Sample ID:	211146204	211146205	211146206
Client Sample ID:	MA-0004	MA-0005	MA-0006
Sample Location:	1st Floor, Classroom 4	1st Floor, Classroom 8	1st Floor, Classroom 20

### Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	75	75	75

## **Qualitative Analysis**

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





Phone:(562) 860-2201 www.aihlab.com

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#**: 203769

Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

	Laboratory Sample ID: Client Sample ID: Sample Location:	MA-0007		211146208 MA-0008 1st Floor, Classroom 19			211146209 MA-0009 1st Floor, Classroom 18			
Quantitative Analysis	Comments:	None		None			None			
<u>Quantitative Analysis</u>		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m <sup>3</sup>	% Total
luncido/Outoido	Aspergillus/Penicillium-like	6	240	9.5	4	160	30.8	5	200	23.8
Inside/Outside -	Cladosporium	54	2160 85.		2	80	15.4	7	280	33.3
	Chaetomium	1	40	1.6	-	-	-	-	-	-
Water Damage	Stachybotrys	-	-	-	-	-	-	-	-	-

		itaw oounts	Орогозин	70 . 010.	itaw oounts	оро.оол	70 . <b>G</b> ta.	Naw Counts	- po. co,	70 TOTAL
Inside/Outside	Aspergillus/Penicillium-like	6	240	9.5	4	160	30.8	5	200	23.8
iliside/Outside	Cladosporium	54	2160	85.7	2	80	15.4	7	280	33.3
	Chaetomium	1	40	1.6	ı	ı	ı	1	ı	-
Water Damage	Stachybotrys	-	ı	-	-	ı	ı	-	ı	-
Indication	Trichoderma	-	ı	-	ı	ı	ı	1	ı	-
	Ulocladium	-	ı	-	ı	-	•	-	ı	-
	Alternaria	-	-	-	2	80	15.4	1	ı	-
	Ascospores	-	ı	-	1	40	7.7	2	80	9.5
	Basidiospores	1	40	1.6	1	40	7.7	2	80	9.5
	Bipolaris	-	ı	-	-	ı	ı	-	ı	-
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	-	-	-	-	ı	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	-	-	-	2	80	15.4	5	200	23.8
Outdoor Environment	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	1	-	-	-	•	-	1	-
	Spegazzinia	-	1	-	-	ı	1	-	1	-
	Tetraploa	-	ı	-	-	ı	-	-	1	-
	Torula	-	1	-	-	-	4	-	ľ	-
	Miscellaneous Spores	1	40	1.6	1	40	7.7	-	1	-
	Ganoderma	-	-	-	-	-/	//-		-	1/1-
									na -	
	Total	63	2520	100	13	520	100	21	840	100



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2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Sample Collection Data

**Qualitative Analysis** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Hyphal Fragments- 1 to 5 (low to high):

Report Status: Final Report

report otatus: I mai repor

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

Laboratory Sample ID:	211146207	211146208	211146209
Client Sample ID:	MA-0007	MA-0008	MA-0009
Sample Location:	1st Floor, Classroom 21	1st Floor, Classroom 19	1st Floor, Classroom 18
<u>Data</u>			
Total Time:			
Flow Rate:			
Volume:	75	75	75
<u>s</u>		,	
Skin Fragments- 1 to 5 (low to high):	2	2	2
Background/m3- 1 to 5 (low to high):	3	3	3

1





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Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

Laboratory Sample ID:	211146210	211146211	211146212
Client Sample ID:	MA-0010	MA-0011	MA-0012
Sample Location:	1st Floor, Classroom 17	1st Floor, Classroom 22/Library	1st Floor, Classroom 27
Comments:	None	None	None

		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total
Incido/Outcido	Aspergillus/Penicillium-like	8	320	61.5	26	1040	72.2	2	80	15.4
Inside/Outside	Cladosporium	2	80	15.4	2	80	5.6	4	160	30.8
	Chaetomium	-	-	-	ı	-	-	•	-	-
Water Damage	Stachybotrys	-	-	-	ı	-	-	-	-	-
Indication	Trichoderma	-	-	-	ı	-	-	-	-	-
	Ulocladium	-	-	-	ı	-	-	-	-	-
	Alternaria	-	-	-	-	-	-	1	40	7.7
	Ascospores	-	-	-	1	-	-	2	80	15.4
	Basidiospores	-	-	-	3	120	8.3	1	40	7.7
	Bipolaris	-	-	-	1	40	2.8	-	-	-
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	3	120	8.3	-	-	<u> </u>
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	3	120	23.1	1	40	2.8	2	80	15.4
<b>Outdoor Environment</b>	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	
	Spegazzinia	-	-	-	-	-	-		-	-
	Tetraploa	-	-	-	-	-	-	-	-	-
	Torula	-	-	-	-	-	/ - /	-	-	-
	Miscellaneous Spores	-	-	-	-	-//	<u>-</u> /	1	40	7.7
	Ganoderma	-	-	-	-	- ///	// <del>_</del>		<u> </u>	114
								411		
	Total	13	520	100	36	1440	100	13	520	100



Phone:(562) 860-2201 www.aihlab.com

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Sample Collection Data

**Qualitative Analysis** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

_			
Laboratory Sample ID:	211146210	211146211	211146212
Client Sample ID:	MA-0010	MA-0011	MA-0012
Sample Location:	1st Floor, Classroom 17	1st Floor, Classroom 22/Library	1st Floor, Classroom 27
<u>ction Data</u>			
Total Time:			
Flow Rate:			
Volume:	75	75	75
nalysis			
Skin Fragments- 1 to 5 (low to high):	1	2	1
Background/m3- 1 to 5 (low to high):	3	4	3
Hyphal Fragments- 1 to 5 (low to high):	1	1	1





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Report Status: Final Report

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867 **AIHA EMPAT#: 203769** Lab Batch Number: 2111462

**Project Number: 211875** 

Samples Received: 13 Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Samples Analyzed: 13

Laboratory Sample ID:	211146213	XXXXXXX	XXXXXXX
Client Sample ID:	MA-0013	XXXXXXX	XXXXXXX
Sample Location:	1st Floor, Classroom 26	XXXXXXX	XXXXXXX

Comments: None

•		Raw Counts	Spores/m <sup>3</sup>	% Total	Raw Counts	Spores/m <sup>3</sup>	% Total	Raw Counts	Spores/m <sup>3</sup>	% Total
luncido/Outoido	Aspergillus/Penicillium-like	7	280	50						
Inside/Outside	Cladosporium	2	80	14.3						
	Chaetomium	-	-	-						
Water Damage Indication	Stachybotrys	-	-	-						
Water Damage indication	Trichoderma	-	-	-						
	Ulocladium	-	-	-						
	Alternaria	1	40	7.1						
	Ascospores	1	40	7.1						
	Basidiospores	3	120	21.4						
	Bipolaris	-	-	-						
	Curvularia	-	-	-						
	Epicoccum	-	-	-						
	Nigrospora	-	-	-						
	Periconia/Myxo/Smut	-	-	-						
Outdoor Environment	Pithomyces	-	-	-						
	Rust	-	-	-						
	Spegazzinia	-	-	-						
	Tetraploa	-	-	-						
	Torula	-	-	-						
	Miscellaneous Spores	-	-	-						
	Ganoderma	-	-	-						
	Total	14	560	100						/////

# **EABORATORY**

#### **MOLD AIR SAMPLE REPORT**

Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#**: 203769

Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

			I ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Laboratory Sample ID:	211146213	XXXXXXX	XXXXXXXX
Client Sample ID:	MA-0013	XXXXXXX	XXXXXXX
Sample Location: 1st	Floor, Classroom 26	XXXXXXX	XXXXXXX
Sample Collection Data			
Total Time:			
Flow Rate:			
Volume:	75		
Qualitative Analysis			
Skin Fragments- 1 to 5 (low to high):	2		
Background/m3- 1 to 5 (low to high):	4		
Hyphal Fragments- 1 to 5 (low to high):	1		

Analyzed by: Emily Chang Signature: Emily Chang Date: 07-21-2021

Reviewed by: Zubair Ahmed Signature: Date: 07-22-2021

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. AlH 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 AlH Laboratory. AlH Laboratory bears no responsibility for sample collection activities or analytical method limitations. Spores/m³ 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 AlH Laboratory 2021.

AIHA LAP, LLC Accredited Laboratory for Microbiology Laboratory ISO/IEC 17025:2005, Lab ID# 203769



Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

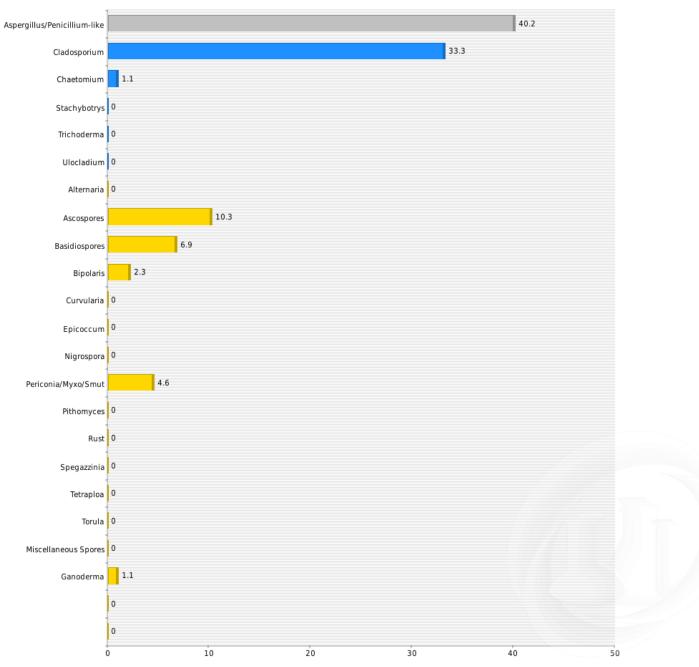
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

#### Exterior (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

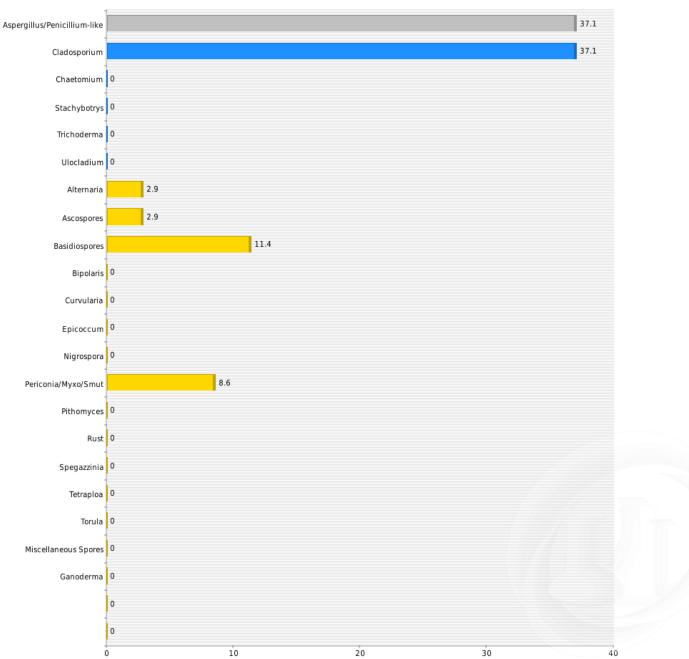
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

#### 1st Floor, Classroom 2 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

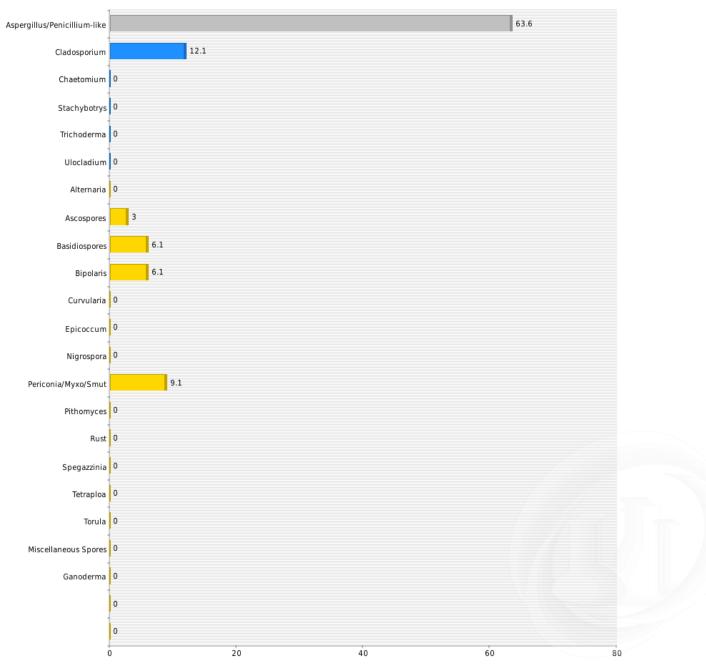
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

#### 1st Floor, Classroom 3 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

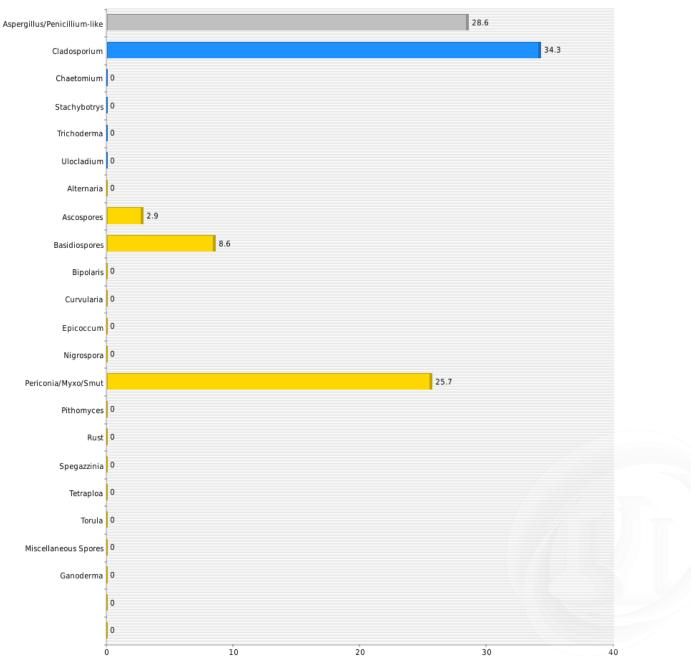
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

# 1st Floor, Classroom 4 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

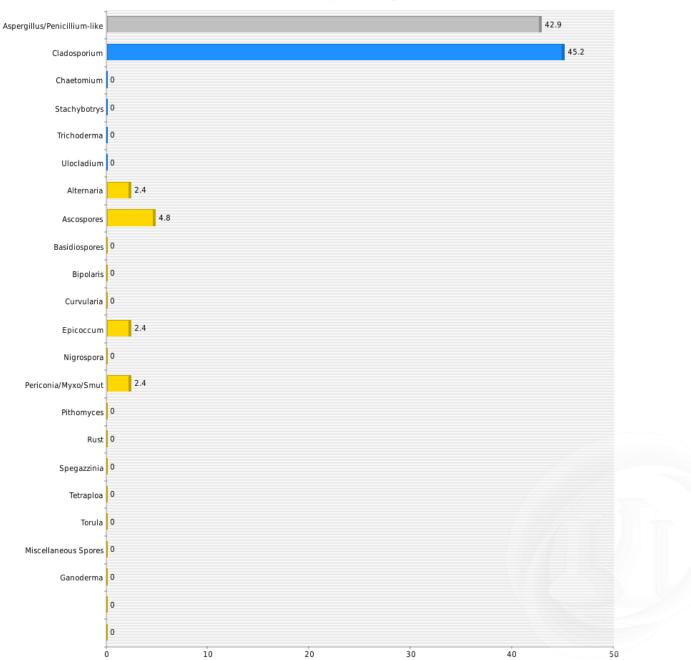
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

#### 1st Floor, Classroom 8 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

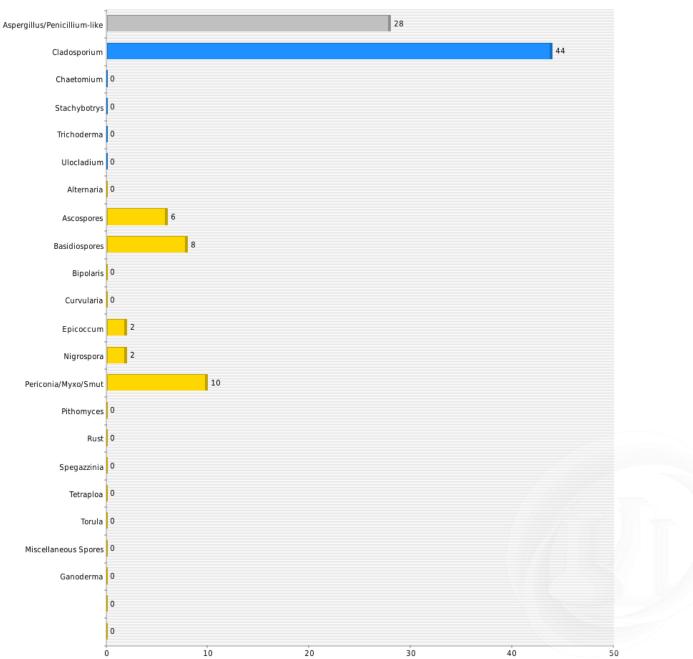
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

# 1st Floor, Classroom 20 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

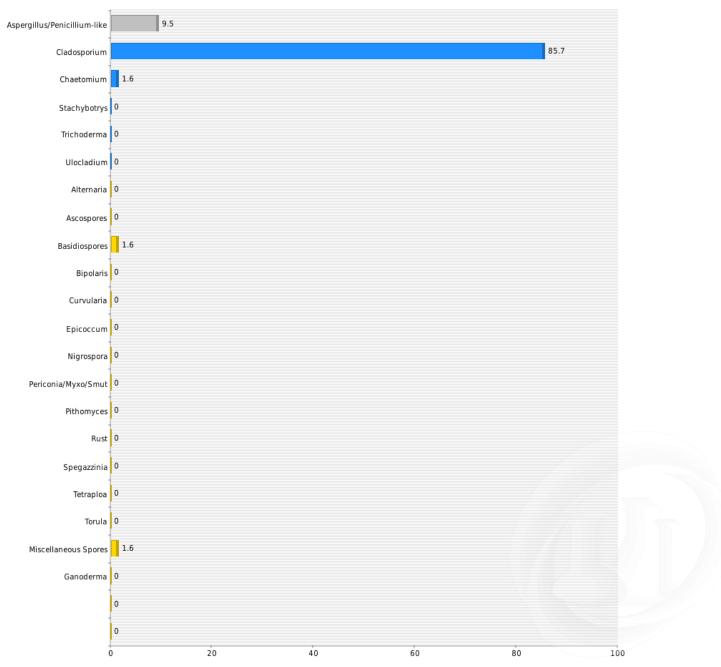
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

# 1st Floor, Classroom 21 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

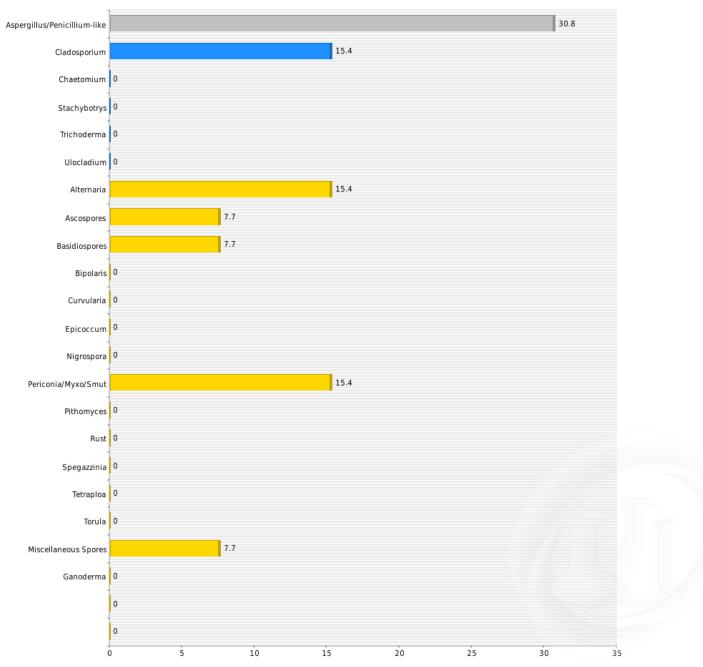
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

# 1st Floor, Classroom 19 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

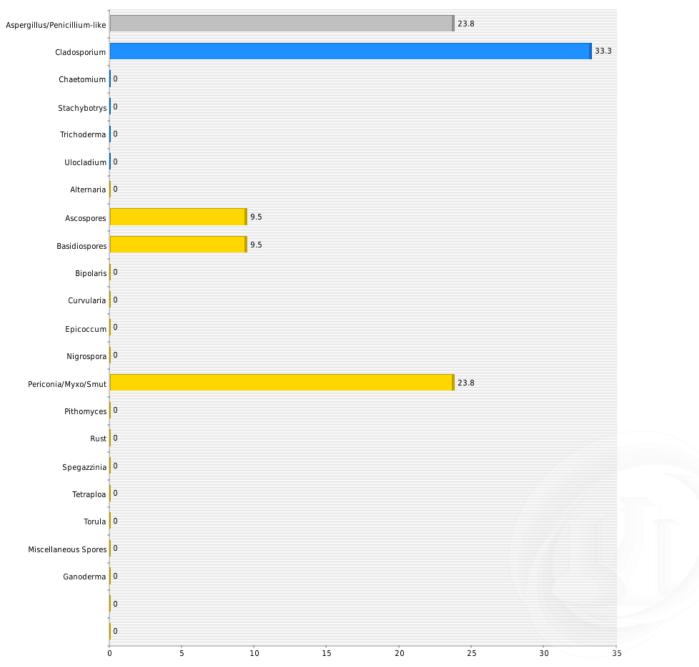
Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111462

Samples Received: 13 Samples Analyzed: 13

#### 1st Floor, Classroom 18 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

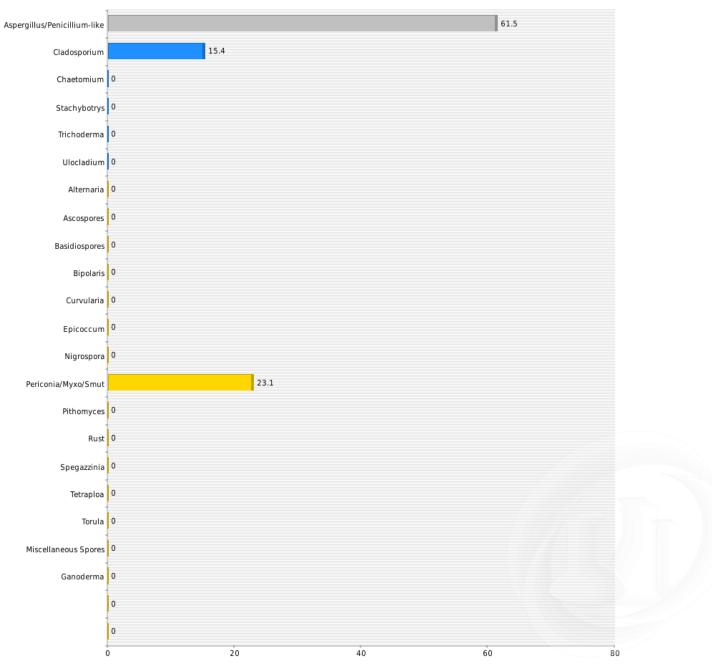
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

# 1st Floor, Classroom 17 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

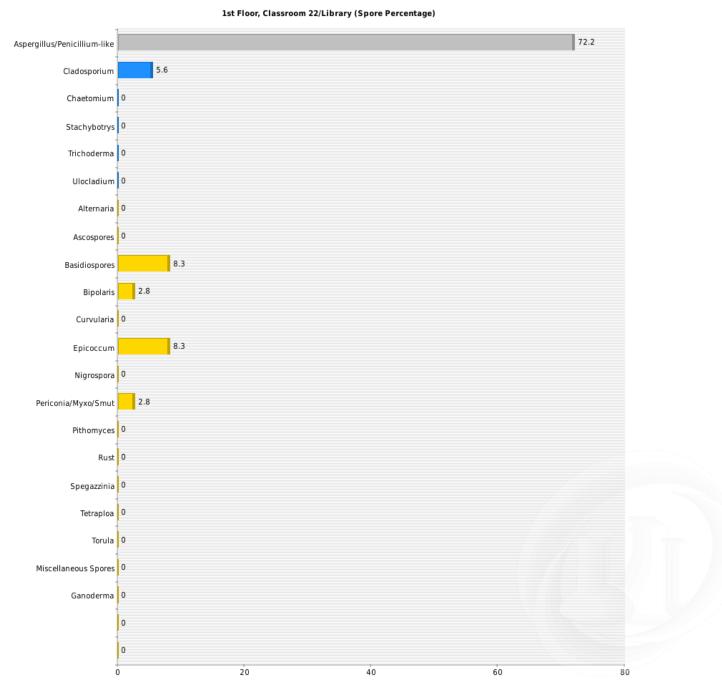
Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#**: 203769

Lab Batch Number: 2111462

Samples Received: 13 Samples Analyzed: 13





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

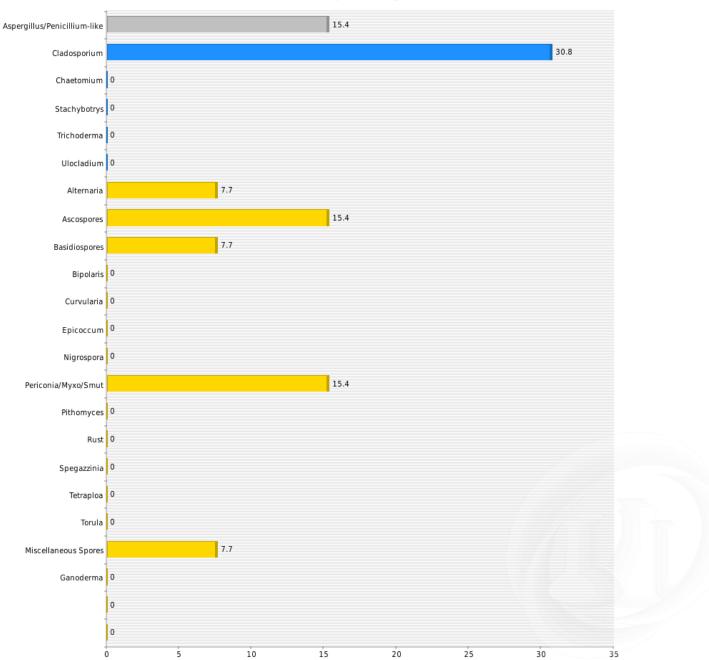
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

# 1st Floor, Classroom 27 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

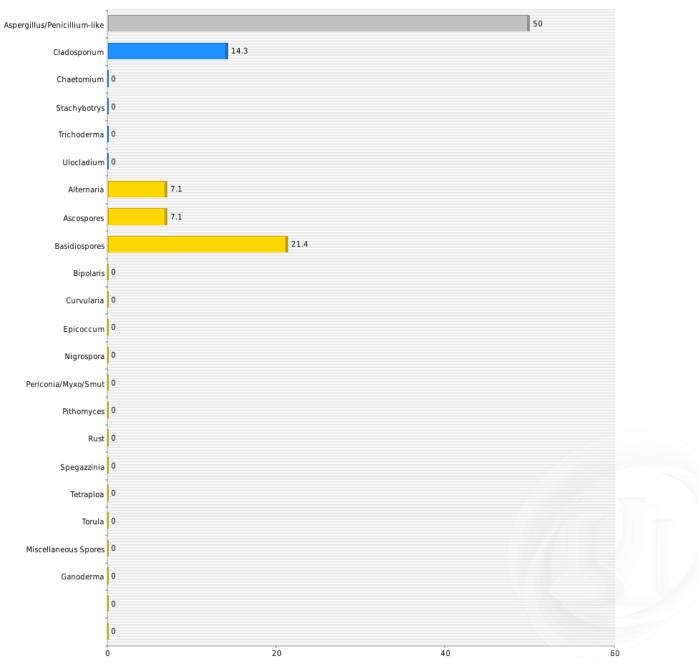
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

# 1st Floor, Classroom 26 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

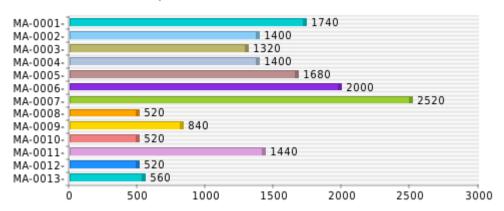
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

# Spore Per Meter Cube







Phone:(562) 860-2201 www.aihlab.com

Client Address: 1640 N. Batavia Street, Orange, CA 92867

Project Number: 211875

Client Name: A-Tech Consulting Inc

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111462

Samples Received: 13

Samples Analyzed: 13

# **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.



Phone:(562) 860-2201 www.aihlab.com

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

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AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152301	211152302	211152303
Client Sample ID:	MA-0014	MA-0015	MA-0016
Sample Location:	1st Floor, Classroom 25	1st Floor, Classroom 24	1st Floor, Classroom 23
Comments:	None	None	None

<u>Quartitativo 7 irialyolo</u>		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total
Inside/Outside	Aspergillus/Penicillium-like	12	480	60	17	680	47.2	7	280	46.7
inside/Outside	Cladosporium	5	200	25	6	240	16.7	4	160	26.7
	Chaetomium	-	-	-	-	-	-	-	-	-
Water Damage	Stachybotrys	-	-	-	-	ı	-	-	ı	-
Indication	Trichoderma	-	-	-	-	i	-	-	-	-
	Ulocladium	-	-	-	-	ı	-	-	1	-
	Alternaria	-	-	-	1	40	2.8	-	-	-
	Ascospores	-	-	-	2	80	5.6	-	1	-
	Basidiospores	2	80	10	3	120	8.3	2	80	13.3
	Bipolaris	-	-	-	-	ı	-	-	-	-
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	1	40	5	-	-	-	-	-	
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	-	-	-	5	200	13.9	2	80	13.3
Outdoor Environment	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-	-	
	Torula	-	-	-	-	-	/-	-	-	-
	Miscellaneous Spores	-	-	-	2	80	5.6	-	-	-
								415	<b>+</b>	
	Total	20	800	100	36	1440	100	15	600	100



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**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523

Samples Received: 17 Samples Analyzed: 17

Laboratory Sample ID:	211152301	211152302	211152303
Client Sample ID:	MA-0014	MA-0015	MA-0016
Sample Location:	1st Floor, Classroom 25	1st Floor, Classroom 24	1st Floor, Classroom 23

# Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	75	75	75

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





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Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152304	211152305	211152306
Client Sample ID:	MA-0017	MA-0018	MA-0019
Sample Location:	1st Floor, Computer Lab	1st Floor, Classroom 16	1st Floor, Classroom 15
Comments:	This sample contains heavy particulate. There may be discrepancies in the results.	None	None

		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total
Inside/Outside	Aspergillus/Penicillium-like	25	1000	37.3	5	200	38.5	11	440	64.7
mside/Outside	Cladosporium	16	640	23.9	2	80	15.4	3	120	17.6
	Chaetomium	-	-	-	-	-		-	-	-
Water Damage	Stachybotrys	-	-	ı	-	-	-	1	-	-
Indication	Trichoderma	-	-	-	-	-		-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
	Alternaria	5	200	7.5	2	80	15.4	-	-	-
	Ascospores	4	160	6	-	-	-	-	-	-
	Basidiospores	4	160	6	2	80	15.4	2	80	11.8
	Bipolaris	-	-	-	-	-	-	-	-	-
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	-	-	-	-	-	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	12	480	17.9	2	80	15.4	1	40	5.9
Outdoor Environment	Pithomyces	-	-	-	-	-	-	-	-	-
Livironinent	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-			-
	Tetraploa	-	-	-	-	- /	-	-	-	-
	Torula	-	-	-	-	- /	-	-	-	-
	Miscellaneous Spores	1	40	1.5	-	/ -	-	-	-	-
					/					
								1///		M/J
	Total	67	2680	100	13	520	100	17	680	100



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2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152304	211152305	211152306
Client Sample ID:	MA-0017	MA-0018	MA-0019
Sample Location:	1st Floor, Computer Lab	1st Floor, Classroom 16	1st Floor, Classroom 15
Sample Collection Data			
Total Time:			
Flow Rate:			
Volume: _	75	75	75
Qualitative Analysis			
Skin Fragments- 1 to 5 (low to high):	2	3	2
Background/m3- 1 to 5 (low to high):	5	4	3
Hyphal Fragments- 1 to 5 (low to high):	2	1	1





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Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

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AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152307	211152308	211152309
Client Sample ID:	MA-0020	MA-0021	MA-0022
Sample Location:	1st Floor, Classroom 14	1st Floor, Classroom 13	1st Floor, Classroom 12
Comments:	None	None	None

		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m <sup>3</sup>	% Total
Inside/Outside	Aspergillus/Penicillium-like	4	160	30.8	3	120	50	18	720	64.3
mside/Odiside	Cladosporium	2	80	15.4	1	40	16.7	7	280	25
	Chaetomium	-	-	-	-	-	-	-	-	-
Water Damage	Stachybotrys	-	ı	-	-	-	ı	-	-	
Indication	Trichoderma	1	ı	-	-	-	•	-	-	-
	Ulocladium	ı	ı		-	1	-	-	-	-
	Alternaria	-	-	-	-	-	ı	-	-	-
	Ascospores	1	40	7.7	-	1	-	-	-	-
	Basidiospores	5	200	38.5	2	80	33.3	3	120	10.7
	Bipolaris	ı	ı	-	-	1	ı	-	-	-
	Curvularia	-	-	-	-	-	ı	-	-	-
	Epicoccum	-	-	-	-	-	-	-	-	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	1	40	7.7	-	1	-	-	-	-
Outdoor Environment	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-	-	-
	Torula	-	-	-	-	-	1-		-	<b>\</b> -
	Miscellaneous Spores	-	-	-	-	-	-	-	-	-
								- यह	}	
										111
	Total	13	520	100	6	240	100	28	1120	100



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Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Sample Collection Data

**Qualitative Analysis** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Hyphal Fragments- 1 to 5 (low to high):

Report Status: Final Report

**AIHA EMPAT#**: 203769

Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152307	211152308	211152309
Client Sample ID:	MA-0020	MA-0021	MA-0022
Sample Location:	1st Floor, Classroom 14	1st Floor, Classroom 13	1st Floor, Classroom 12
<u>Data</u>			
Total Time:			
Flow Rate:			
Volume:	75	75	75
<u>s</u>			
Skin Fragments- 1 to 5 (low to high):	1	1	2
Background/m3- 1 to 5 (low to high):	3	3	3
	·		

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Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#**: 203769

Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152310	211152311	211152312
Client Sample ID:	MA-0023	MA-0024	MA-0025
Sample Location:	1st Floor, Classroom 11	1st Floor, Classroom 10	1st Floor, Classroom 9
Comments:	None	None	None

<u> </u>		Raw Counts	Spores/m <sup>3</sup>	0/ Total	Raw Counts	Spores/m <sup>3</sup>	% Total	Raw Counts	C3	9/ Total
	Aspergillus/Penicillium-like	8	320	47.1	4	160	28.6	19	760	67.9
Inside/Outside	· -	1	40	5.9	4	160	28.6	3	120	10.7
	Cladosporium									
	Chaetomium	-	-	-	-	-	-	-	-	-
Water Damage	Stachybotrys	-	-	-	-	-	-	-	-	-
Indication	Trichoderma	-	-	-	-	-	-	-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
	Alternaria	-	-	-	1	40	7.1	1	40	3.6
	Ascospores	2	80	11.8	1	40	7.1	1	40	3.6
	Basidiospores	5	200	29.4	1	40	7.1	3	120	10.7
	Bipolaris	-	-	-	-	-	-	1	40	3.6
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	-	-	-	-	-	-
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	1	40	5.9	2	80	14.3	-	-	-
Outdoor Environment	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-		-
	Torula	-	-	-	-	-	- /	<u> </u>	-	-
	Miscellaneous Spores	-	-	-	1	40	7.1	-	-	-
						/ //		3 175		
	Total	17	680	100	14	560	100	28	1120	100



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2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

Report Status: Timal Repor

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152310	211152311	211152312
Client Sample ID:	MA-0023	MA-0024	MA-0025
Sample Location:	1st Floor, Classroom 11	1st Floor, Classroom 10	1st Floor, Classroom 9

# Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	75	75	75

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





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Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152313	211152314	211152315
Client Sample ID:	MA-0026	MA-0027	MA-0028
Sample Location:	1st Floor, Classroom 7	1st Floor, Classroom 6	1st Floor, Classroom 5
Comments:	None	None	None

Quantilative Analysis		Raw Counts	Spores/m³	% Total	Raw Counts	Spores/m <sup>3</sup>	% Total	Raw Counts	Spores/m <sup>3</sup>	% Total
	Aspergillus/Penicillium-like	7	280	43.8	10	400	58.8	12	480	63.2
Inside/Outside	Cladosporium	6	240	37.5	4	160	23.5	3	120	15.8
	Chaetomium	-	-	-	-	-	-	-	-	-
Mater Danier In Parties	Stachybotrys	-	-	-	-	-	-	-	-	-
Water Damage Indication -	Trichoderma	-	-	-	-	-	-	-	-	-
	Ulocladium	-	-	-	-	-	-	-	-	-
	Alternaria	-	-	-	-	-	-	-	-	-
	Ascospores	1	40	6.3	1	40	5.9	-	-	-
	Basidiospores	2	80	12.5	1	40	5.9	-	-	-
	Bipolaris	-	-	-	1	-	ı	-	-	-
	Curvularia	-	-	-	-	-	-	-	-	-
	Epicoccum	-	-	-	-	-	-	1	40	5.3
	Nigrospora	-	-	-	-	-	-	-	-	-
	Periconia/Myxo/Smut	-	-	-	1	40	5.9	3	120	15.8
Outdoor Environment	Pithomyces	-	-	-	-	-	-	-	-	-
	Rust	-	-	-	-	-	-	-	-	-
	Spegazzinia	-	-	-	-	-	-	-	-	-
	Tetraploa	-	-	-	-	-	-	-	-	-
	Torula	-	-	-	-	-	-	-	-	-
	Miscellaneous Spores	-	-	-	-	-/	-	-	-	-
						///				
								S 4115		
	Total	16	640	100	17	680	100	19	760	100



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2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Sample Collection Data

**Qualitative Analysis** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Hyphal Fragments- 1 to 5 (low to high):

Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152313	211152314	211152315
Client Sample ID:	MA-0026	MA-0027	MA-0028
Sample Location:	1st Floor, Classroom 7	1st Floor, Classroom 6	1st Floor, Classroom 5
Pata			
Total Time:			
Flow Rate:			
Volume:	75	75	75
Skin Fragments- 1 to 5 (low to high):	2	3	2
Background/m3- 1 to 5 (low to high):	3	4	3

1





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Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

**AIHA EMPAT#**: 203769

Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152316	211152317	XXXXXXX
Client Sample ID:	MA-0029	MA-0030	XXXXXXX
Sample Location:	1st Floor, Classroom 1	Exterior	XXXXXXXX
Comments:	None	None	

		Raw Counts	Spores/m <sup>3</sup>	% Total	Raw Counts	Spores/m <sup>3</sup>	% Total	Raw Counts	Spores/m <sup>3</sup>	% Total
Inside/Outside	Aspergillus/Penicillium-like	27	1080	56.3	22	440	35.5			
inside/Outside	Cladosporium	9	360	18.8	26	520	41.9			
	Chaetomium	-	-	-	-	-	-			
Water Demogra Indication	Stachybotrys	2	80	4.2	-	-	-			
Water Damage Indication	Trichoderma	-	-	-	-	-	-			
	Ulocladium	-	-	-	-	-	-			
	Alternaria	1	40	2.1	-	-	-			
	Ascospores	2	80	4.2	2	40	3.2			
	Basidiospores	1	40	2.1	3	60	4.8			
	Bipolaris	-	-	-	1	20	1.6			
	Curvularia	-	-	-	2	40	3.2			
	Epicoccum	-	-	-	-	-	-			
	Nigrospora	-	-	-	1	20	1.6			
	Periconia/Myxo/Smut	6	240	12.5	5	100	8.1			
Outdoor Environment	Pithomyces	-	-	-	-	-	-			
	Rust	-	-	-	-	-	-			
	Spegazzinia	-	-	-	-	-	-		7	
	Tetraploa	-	-	-	ı	-	-			
	Torula	-	-	-	-	-	/-			
	Miscellaneous Spores	-	-	-	ı	-	-			
									_	
									5	
	Total	48	1920	100	62	1240	100			

# **EXAMPLABORATORY**

#### **MOLD AIR SAMPLE REPORT**

Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

Project Number: 211875

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

Report Status: Final Report

AIHA EMPAT#: 203769

Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

Laboratory Sample ID:	211152316	211152317	XXXXXXXX
Client Sample ID:	MA-0029	MA-0030	XXXXXXXX
Sample Location:	1st Floor, Classroom 1	Exterior	XXXXXXX

Sample Collection Data

Total Time:			
Flow Rate:			
Volume:	75	150	

Qualitative Analysis

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

Analyzed by: Emily Chang Signature: Emayor Date: 07-21-2021

Reviewed by: Zubair Ahmed Signature: Date: 07-22-2021

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/m³ 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



Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

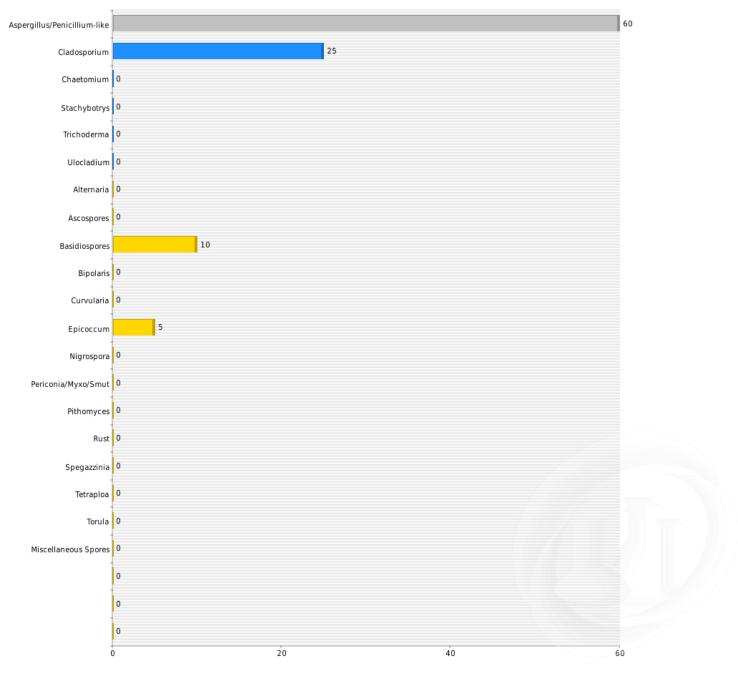
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

# 1st Floor, Classroom 25 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

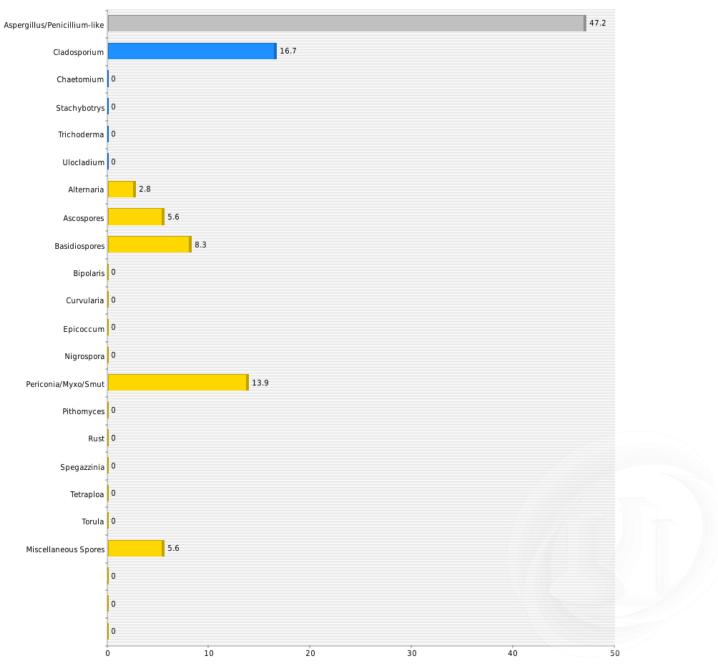
Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523

Samples Received: 17 Samples Analyzed: 17

# 1st Floor, Classroom 24 (Spore Percentage)





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2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

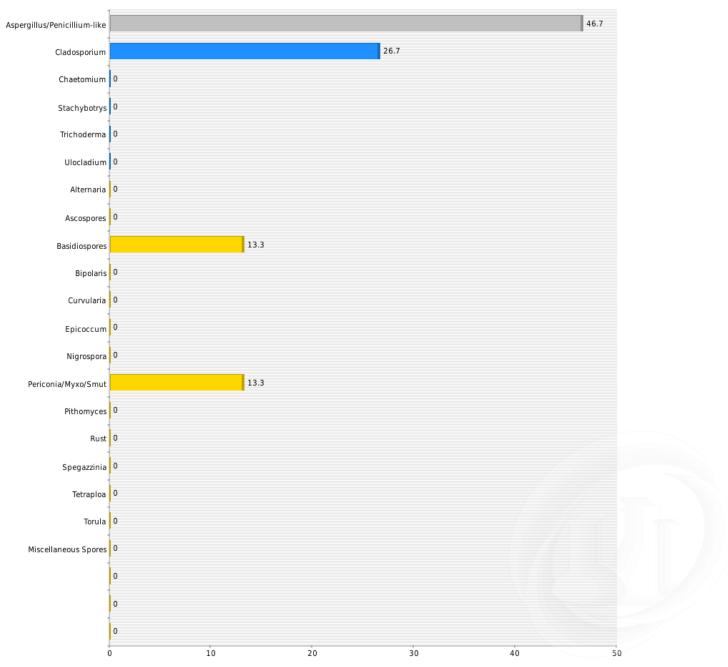
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

# 1st Floor, Classroom 23 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

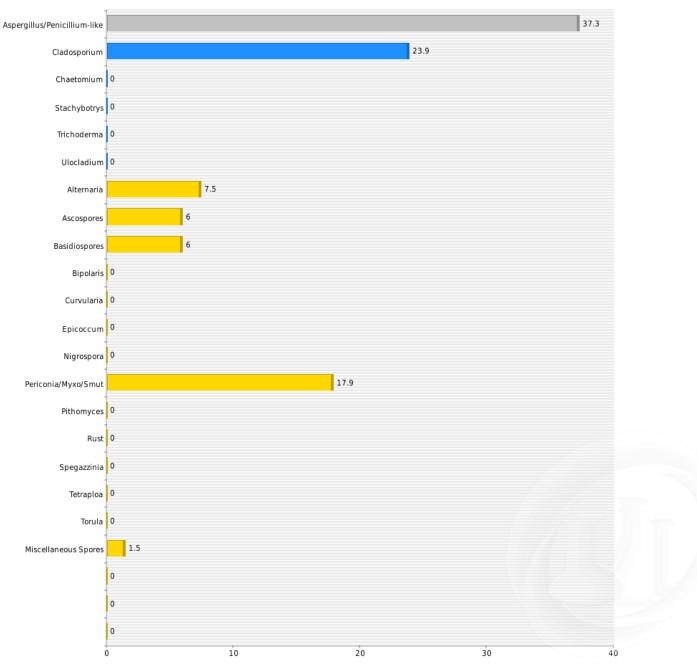
Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523 Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Computer Lab (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

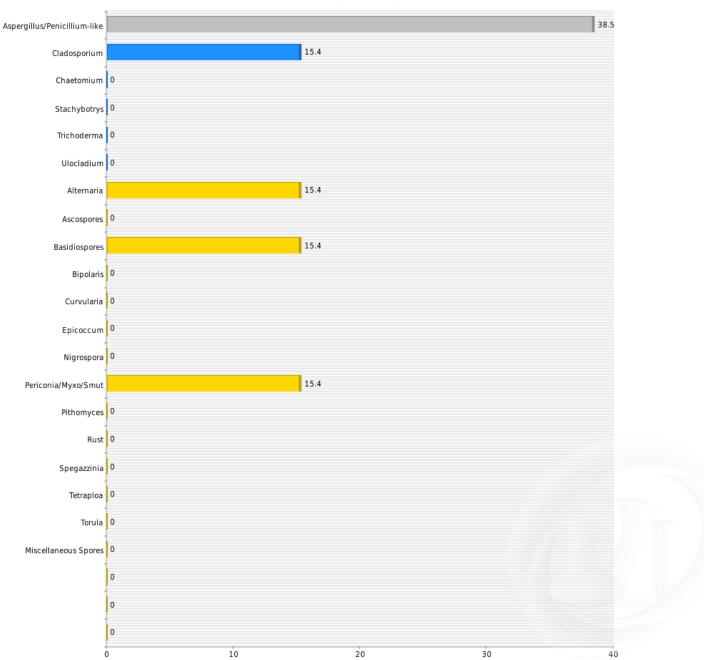
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 16 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

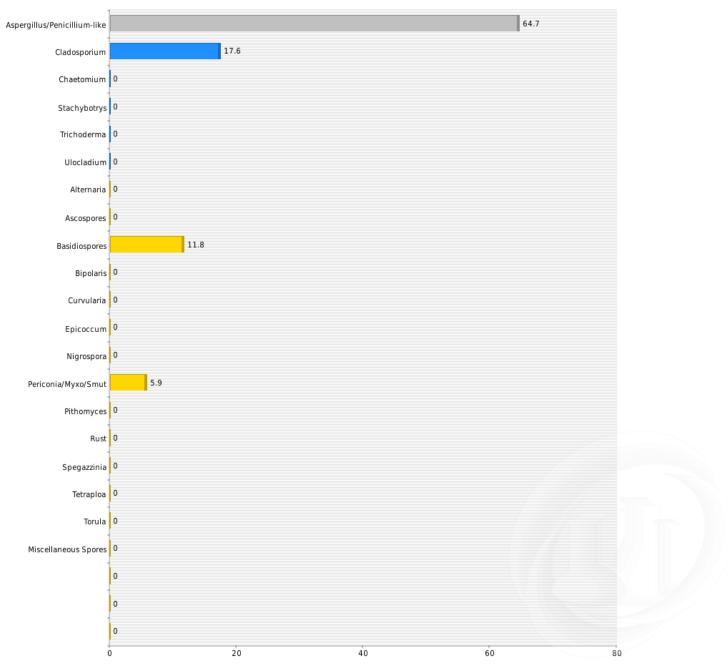
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 15 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

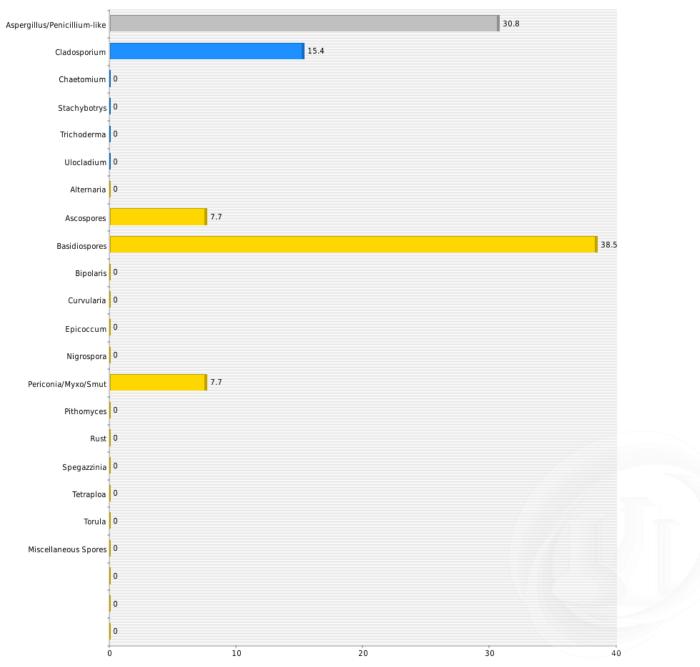
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 14 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

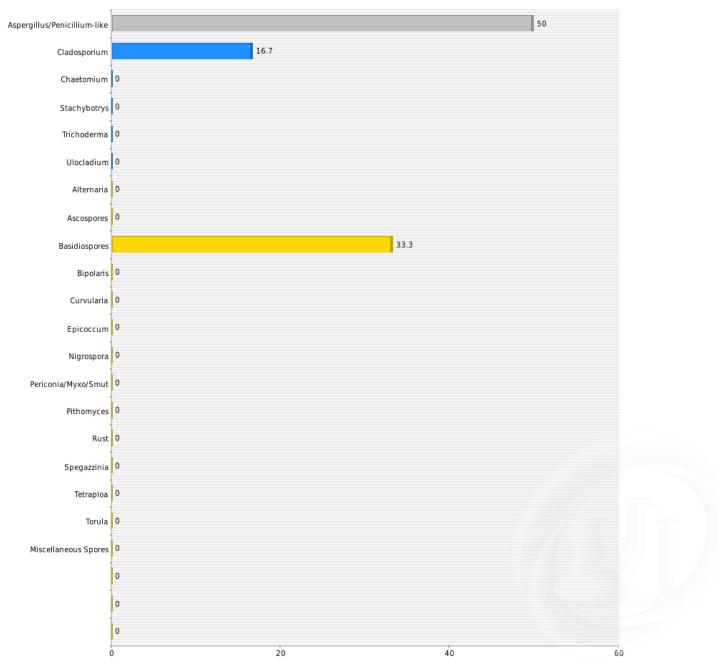
Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523 Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 13 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

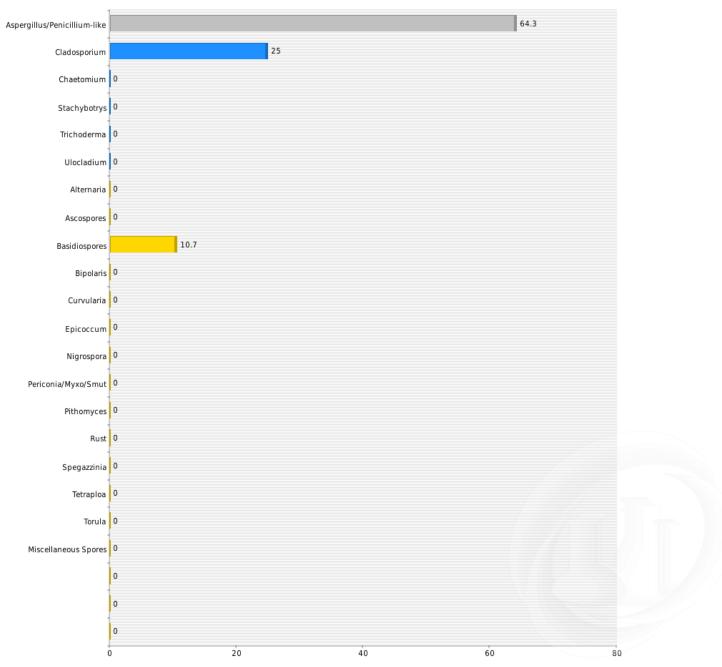
Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523 Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 12 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

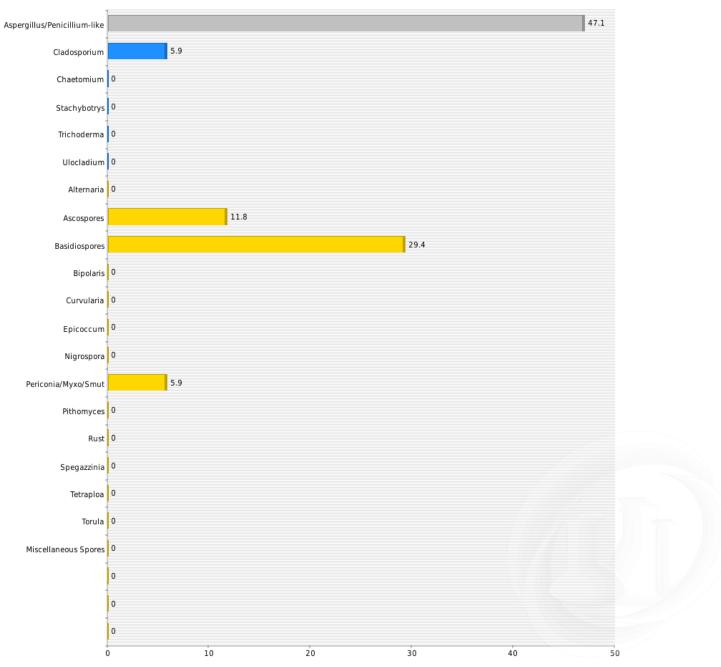
Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523 Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 11 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

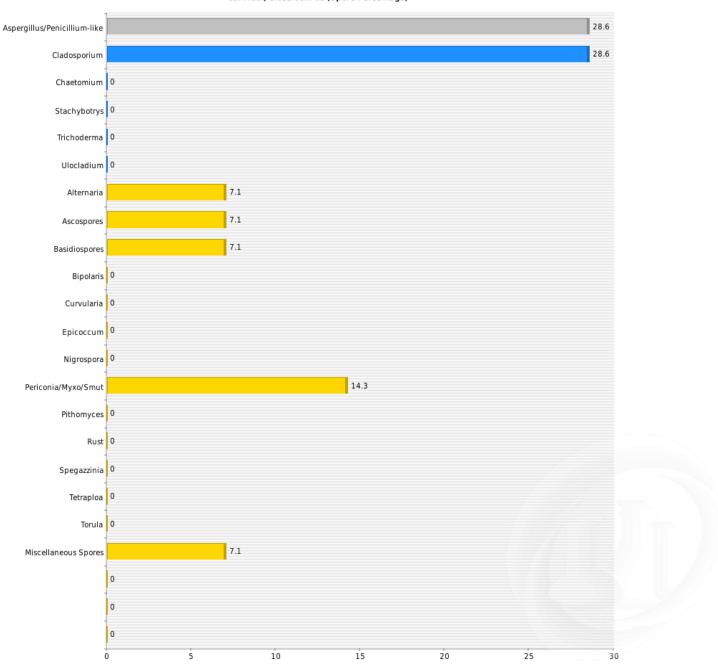
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 10 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

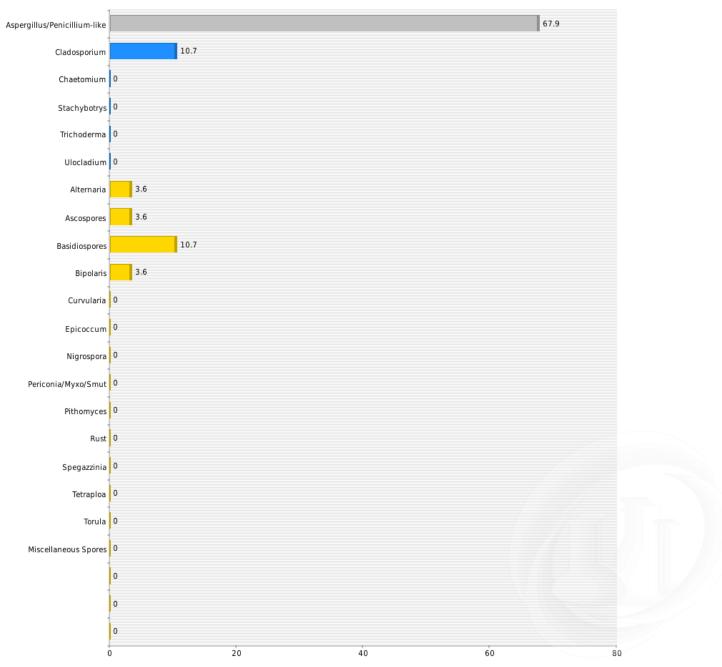
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 9 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

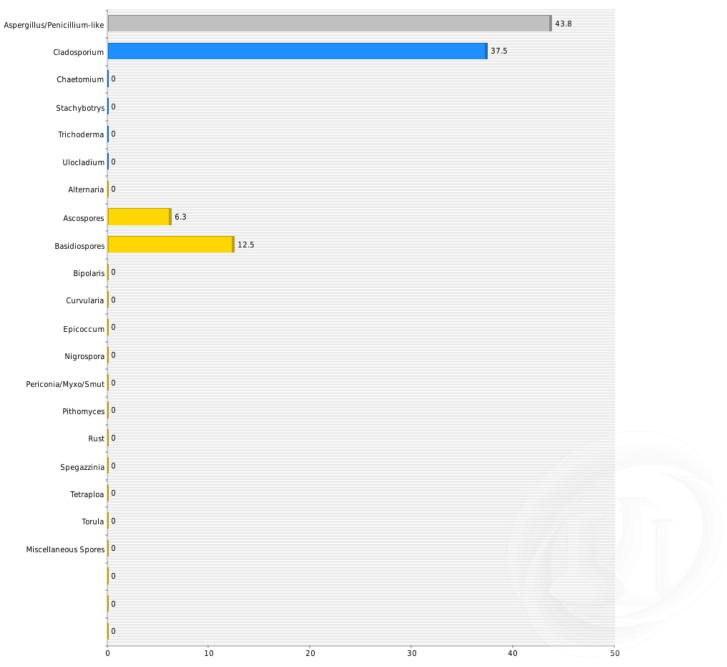
Report Status: Final Report

**AIHA EMPAT#**: 203769

Lab Batch Number: 2111523 Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 7 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

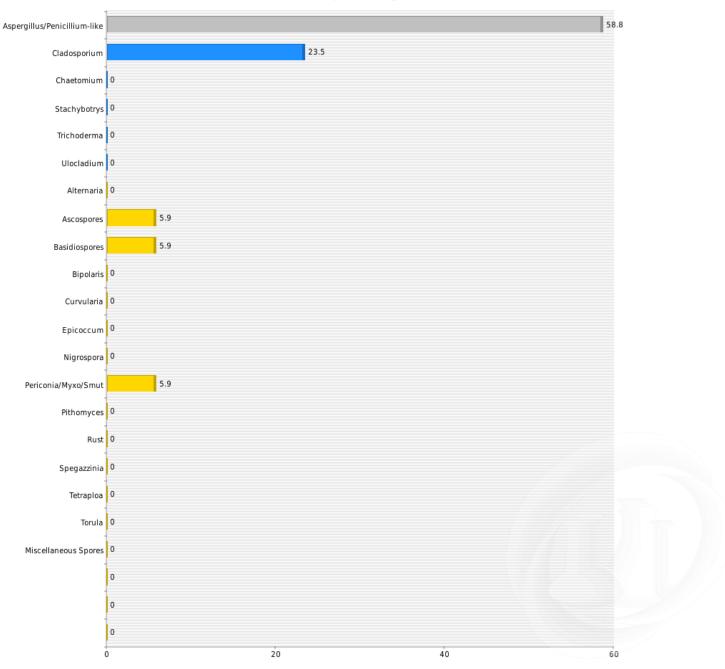
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 6 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

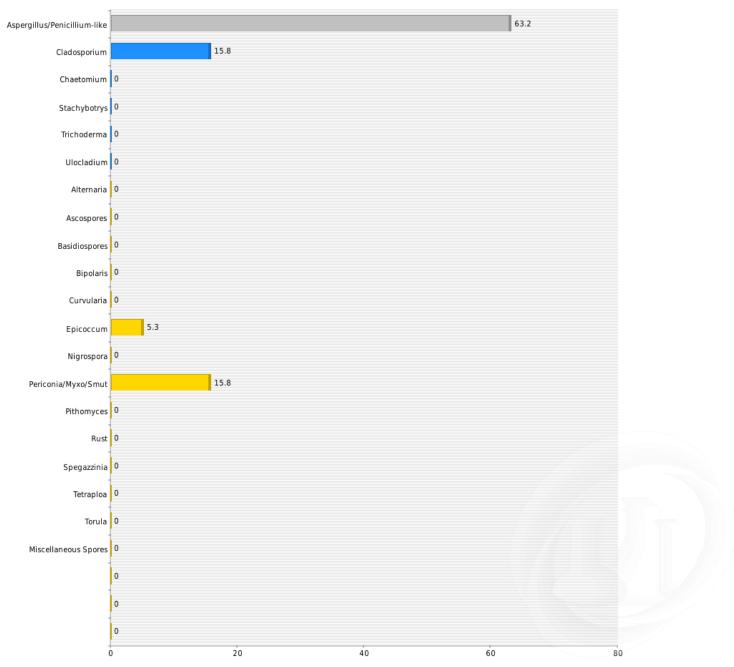
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

#### 1st Floor, Classroom 5 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

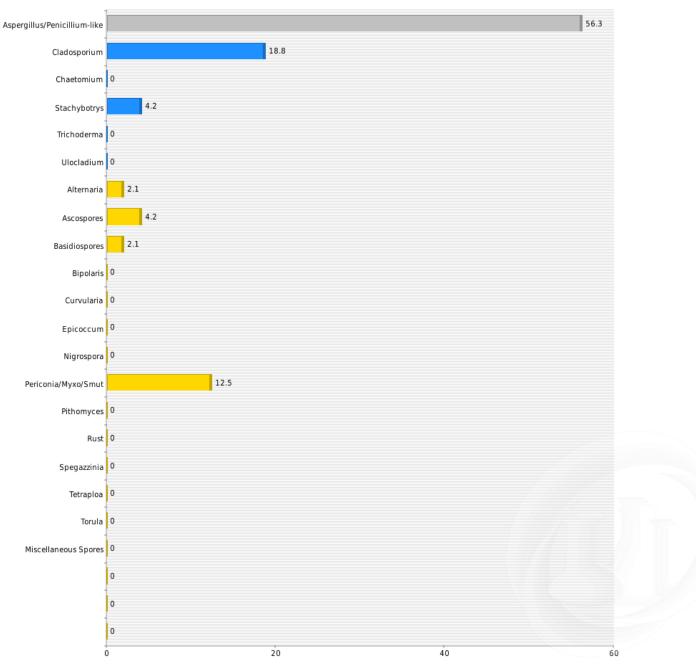
Report Status: Final Report

**AIHA EMPAT#:** 203769

Lab Batch Number: 2111523

Samples Received: 17 Samples Analyzed: 17

#### 1st Floor, Classroom 1 (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

**Project Number: 211875** 

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

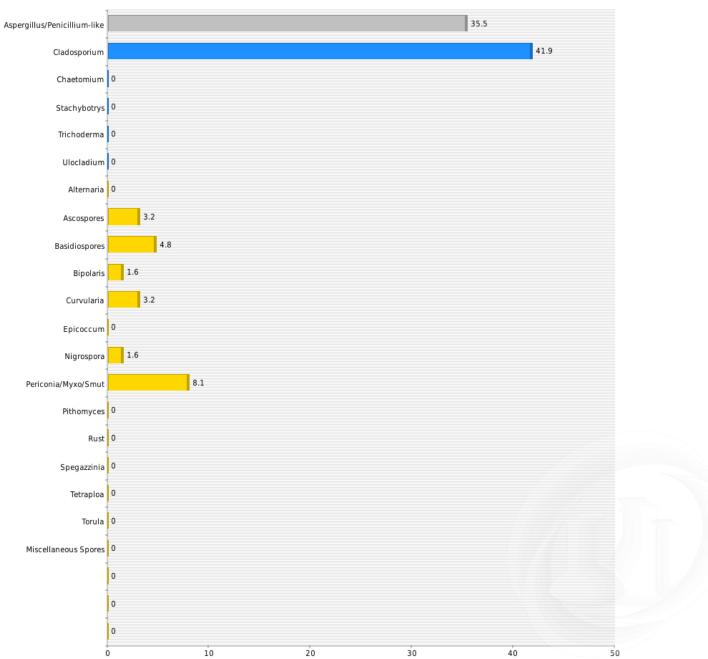
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

#### Exterior (Spore Percentage)





Phone:(562) 860-2201 www.aihlab.com

2556 W Woodland Dr Anaheim, CA 92801

Client Name: A-Tech Consulting Inc

Client Address: 1640 N. Batavia Street, Orange, CA 92867

Project Number: 211875

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702

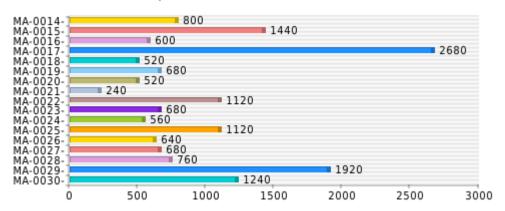
Report Status: Final Report

AIHA EMPAT#: 203769 Lab Batch Number: 2111523

Samples Received: 17

Samples Analyzed: 17

### Spore Per Meter Cube







2556 W Woodland Dr Anaheim, CA 92801

#### **MOLD AIR SAMPLE REPORT**

Phone:(562) 860-2201 www.aihlab.com

Client Name: A-Tech Consulting Inc Report Status: Final Report

Client Address: 1640 N. Batavia Street, Orange, CA 92867

Project Number: 211875

AIHA EMPAT#: 203769

Lab Batch Number: 2111523

Project Location: 550 North Cerritos Avenue, Azusa, CA 91702 Samples Received: 17

Samples Analyzed: 17

#### **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:

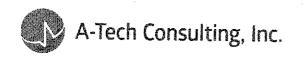
It is difficult to precisely measure some analytical findings which aid in assessing the overall sample condition and density. Qualitative analysis is used to determine concentration of Skin Fragments, Background and Hyphal fragments. A number between 1-5 is used to rate the concentrations. Each number 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**

AlH Laboratory is renowned laboratory located in Anaheim, CA. The staff at AlH Laboratory is recognized by State, Federal agencies and International Accrediting Bodies. AlH Laboratory employs sophisticated techniques, strong professional experience along with recognized testing procedures in the industry. AlH 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 AlH 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.



#### MOLD AIR SAMPLE CHAIN OF CUSTODY

Analysis: Non-Viable Spore Trap (Air-O-Cell)(ID Fungal Count & Genus; Direct Exam)		Phone Number	: (714) 434-6360 21	11462	
Turn Around Time: 72 Hour		Fax Number: (714) 221-6360			
		Attn: Robert Wi	Illiams		
		Results: Email t	o labs@atechinc.net		
Project Number and Na	me:	Sampled By:			
211875 - Azusa USD Cha	arles H. Lee Elementary	Krizia Kolakows	ki		
Project Address:		City:	State:	Zip:	
550 North Cerritos Avenu	ie	Azusa	CA	91702-3013	
Notes:					
Sample Date	Sample ID	Sam	ple Location	Sample Volume (L	
7/14/2021 9:00 AM	211875-MA-0001		Exterior	Sample volume (L)	
7/13/2021 9:12 AM	211875-MA-0002	1st Floo	or, Classroom 2	75	
7/13/2021 9:40 AM	211875-MA-0003	1st Floo	75		
7/13/2021 10:25 AM	211875-MA-0004	1st Floo	or, Classroom 4	75	
7/13/2021 10:26 AM	211875-MA-0005	1st Floor, Classroom 8		75	
7/13/2021 10:27 AM	211875-MA-0006	1st Floor, Classroom 20		75	
7/13/2021 10:34 AM	211875-MA-0007	1st Floor, Classroom 21		75	
7/13/2021 10:42 AM	211875-MA-0008	1st Floor, Classroom 19		75	
7/13/2021 10:56 AM	211875-MA-0009	1st Floor, Classroom 18		75	
7/13/2021 11:11 AM	211875-MA-0010	1st Floor	75		
7/13/2021 11:25 AM	211875-MA-0011	1st Floor, Cl	75		
7/13/2021 11:42 AM	211875-MA-0012	1st Floor	c, Classroom 27	75	
7/14/2021 11:58 AM	211875-MA-0013	1st Floor	; Classroom 26	75	

Client Sample Number: 211875-MA-0001 to 211875-MA-0030		<b>Total:</b> 30
Relinquished By:	<b>Date:</b> 7/19/2021	<b>Time:</b> 4:16 PM
Samples Received By: Hyan Hull (	Date: 7/19/2001	Time; 5: 25
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: <a href="https://www.atechinc.net">www.atechinc.net</a>



# 2111523

A-Tech Project Number: 211875 Client Reference Number:

### MOLD AIR SAMPLE CHAIN OF CUSTODY

7/14/2021 12:09 PM	211875-MA-0014	1st Floor, Classroom 25	75
7/14/2021 12:20 PM	211875-MA-0015	1st Floor, Classroom 24	75
7/14/2021 12:33 PM	211875-MA-0016	1st Floor, Classroom 23	75
7/14/2021 2:51 PM	211875-MA-0017	1st Floor, Computer Lab	75
7/14/2021 2:52 PM	211875-MA-0018	1st Floor, Classroom 16	75
7/14/2021 3:06 PM	211875-MA-0019	1st Floor, Classroom 15	75
7/14/2021 3:17 PM	211875-MA-0020	1st Floor, Classroom 14	75
7/14/2021 3:28 PM	211875-MA-0021	1st Floor, Classroom 13	75
7/14/2021 3:40 PM	211875-MA-0022	1st Floor, Classroom 12	75
7/14/2021 3:52 PM	211875-MA-0023	1st Floor, Classroom 11	75
7/14/2021 4:04 PM	211875-MA-0024	1st Floor, Classroom 10	75
7/14/2021 4:19 PM	211875-MA-0025	1st Floor, Classroom 9	75
7/14/2021 4:27 PM	211875-MA-0026	1st Floor, Classroom 7	75
7/14/2021 4:40 PM	211875-MA-0027	1st Floor, Classroom 6	75
7/14/2021 4:52 PM	211875-MA-0028	1st Floor, Classroom 5	75
7/14/2021 5:15 PM	211875-MA-0029	1st Floor, Classroom 1	75
7/14/2021 5:15 PM	211875-MA-0030	Exterior	150

Chefit Sample Number: 2	11873-MA-0001 to 211875-MA-003	30	Total: 30
Relinquished By:		Date: 7/19/2021	<b>Time:</b> 4:16 PM
Samples Received By:	year Keeff (	Date: 7/14/2	202 Time: 5:252
Relinquished By:		Date:	Time:
Samples Received By:		Date:	Time:

# INSTRUMENT CALIBRATION REPORT



# **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 I	oup # 1 Name Tempera Accy Plus / M			Range Acc % Reading Acc % Plus/Minus	0.0000		
Nom In Val / In Val 20.00 / 17.70	<u>In Type</u> °C	Out Val 17.70	Out Type °C	Fnd As 17.80	Lft As 17.70	<u>Dev%</u>	Pass/Fail Pass
Group I	oup # 2 Name Relative Accy Plus / M			Range Acc % Reading Acc % Plus/Minus	0.0000	0.0076	1 855
Nom In Val / In Val 30.00 / 29.40	In Type %	Out Val 29.40	Out Type %	<u>Fnd As</u> 31.10	Lft As 29.40	<u>Dev%</u> 0.00%	Pass/Fail Pass
Group N	oup # 3 Name Carbon I Accy Pct of Re			Range Acc % Reading Acc % Plus/Minus	3.0000		
Nom In Val / In Val 0.00 / 0.00 1000.00 / 1000.00	In Type ppm ppm	Out Val 0.00 1000.00	Out Type ppm ppm	Fnd As 6.00 970.00	Lft As 0.00 1,002.00	Dev% 0.00% 0.20%	Pass/Fail Pass Pass
Group N	up # 4 [ame Carbon Naccy Pct of Re			Range Acc % Reading Acc % Plus/Minus	3.0000		
Nom In Val / In Val 0.00 / 0.00 100.00 / 100.00	<u>In Type</u> ppm ppm	Out Val 0.00 100.00	Out Type ppm ppm	Fnd As 0.40 67.30	Lft As 0.00 100.40	<u>Dev%</u> 0.00% 0.40%	Pass/Fail Pass Pass
Group N	up # 5 ame Barometr Accy Pct of Re			Range Acc % Reading Acc % Plus/Minus	3.0000		
Nom In Val / In Val 30.00 / 29.71	<u>In Type</u> inHg	<u>Out Val</u> 29.71	Out Type inHg	Fnd As 29.92	<u>Lft As</u> 29.71	<u>Dev%</u> 0.00%	Pass/Fail Pass

# INSTRUMENT CALIBRATION REPORT



# **A-Tech Testing**

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

Test Instruments Used During the Calibration							
Description	Manufacturer	Serial Number	(As Of Cal Entry Date)				
100ppm CO, 1000ppm CO	2 Specialty Gases of	MBI-375-2	12/1/2018	Next Cal Date 12/11/2022			
Relative Humidity Meter	Michell	273296	11/3/2020	11/3/2021			
Nitrogen 99.999%	Liquid Technology	31821	12/1/2018	12/1/2023			
Omega HX93AC/DP25-E	Omega Engineering	1010368 035025 035026	11/25/2020	11/25/2022			
Omega PX02K1-16A5T/DP25-E-A	Omega Engineering	168377/8375030	11/25/2020	11/25/2022			
Omega WT4401-D	Omega Engineering	101105	11/25/2020	11/25/2022			
Zero Grade Air THC <1.0 PPM	Liquid Technology	31845	3/1/2019	3/21/2023			
	Description 100ppm CO, 1000ppm CO Relative Humidity Meter Nitrogen 99.999% Omega HX93AC/DP25-E Omega PX02K1-16A5T/DP25-E-A Omega WT4401-D Zero Grade Air THC <1.0	Description 100ppm CO, 1000ppm CO2 Specialty Gases of America, Inc. Relative Humidity Meter Nitrogen 99.999% Liquid Technology Omega HX93AC/DP25-E Omega Engineering PX02K1-16A5T/DP25-E-A Omega WT4401-D Omega Engineering Zero Grade Air THC <1.0 Liquid Technology	DescriptionManufacturerSerial Number100ppm CO, 1000ppm CO2 Specialty Gases of America, Inc.MBI-375-2Relative Humidity MeterMichell273296Nitrogen 99.999%Liquid Technology31821Omega HX93AC/DP25-EOmega Engineering1010368 035025 035026Omega PX02K1-16A5T/DP25-E-AOmega Engineering168377/8375030Omega WT4401-DOmega Engineering101105Zero Grade Air THC <1.0	Description         Manufacturer         Serial Number         Last Cal Date           100ppm CO, 1000ppm CO2 Specialty Gases of America, Inc.         MBI-375-2         12/1/2018           Relative Humidity Meter         Michell         273296         11/3/2020           Nitrogen 99.999%         Liquid Technology         31821         12/1/2018           Omega HX93AC/DP25-E         Omega Engineering         1010368 035025 035025 035026         11/25/2020           Omega PX02K1-16A5T/DP25-E-A         Omega Engineering         168377/8375030         11/25/2020           Omega WT4401-D         Omega Engineering         101105         11/25/2020           Zero Grade Air THC <1.0			

# 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



# **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

Thermo DataRAM-4000

**Manufacturer** 

Thermo

Serial Number

D780

(As Of Cal Entry Date)

Last Cal Date 3/6/2020

Next Cal Date

3/6/2021

DR-4 MASTER D780

Master

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.