

Limited Indoor Air Quality Assessment

Lake County

Umatilla Community Center

17107 Ball Park Road

Umatilla, Florida 32784

Prepared for:
Lake County Facilities and Fleet Management Department
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APTIM Project 631023227
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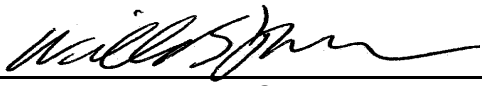
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Acronyms and Abbreviations

AHU	air handling unit
AIHA	American Industrial Hygiene Association
APTIM	Aptim Environmental & Infrastructure, LLC
ASTM	American Society for Testing and Materials
ASHRAE	American Society for Heating, Refrigeration, and Air Conditioning Engineers
CO	Carbon monoxide
CO ₂	carbon dioxide
EMSL	EMSL Analytical, Inc.
°F	degrees Fahrenheit
HVAC	heating, ventilation, and air conditioning
IAQ	indoor air quality
Lpm	liters per minute
mg/m ³	milligrams per cubic meter of air
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PEL	permissible exposure limit
ppm	parts per million
SF	square foot
spores/m ³	spores per cubic meter of air
TWA	time weighted average
µg/g	microgram per gram
U/g	unit per gram
UCC	Umatilla Community Center
VFT	vinyl floor tile
WME	wood moisture equivalent

1.0 Introduction and Executive Summary

1.1 Introduction

Aptim Environmental & Infrastructure, LLC (APTIM) was retained by the Lake County Facilities and Fleet Management Department (Lake County) to perform a limited indoor air quality (IAQ) assessment of the Lake County Umatilla Community Center (UCC) located at 17107 Ball Park Road, in Umatilla, Florida (**Figure 1**). The subject property is used as a local community center for the Umatilla city residents. The facility is a one-story modular building consisting of four sections on concrete block piers and was built in 2003. The building encompasses approximately 3,584 square feet (SF). The assessment area contained a lobby, an office cubicle, a main activity room, a storeroom, a janitor's closet, a kitchen, and two restrooms.

This limited IAQ assessment was commissioned to determine if potential IAQ environmental factors were present within the building which could impact occupant comfort and health. Photographs of the facility are provided in **Appendix A**.

During the data collection effort, six air samples were collected to document the presence and quantities of selected microbiological species (fungi). This included four interior samples and two exterior samples for comparison purposes. Additionally, 12 tape-lift samples for direct fungi species identification were collected.

Ambient relative humidity, temperature, carbon monoxide (CO), carbon dioxide (CO₂), and moisture conditions were also measured and recorded as part of the survey. Copies of the laboratory analytical report and chain-of-custody record from EMSL Analytical, Inc. (EMSL), Orlando, Florida, are provided in **Appendix B**.

Mr. William Zukauskas of APTIM, a certified mold assessor (**Appendix C**), performed the visual assessment and data collection on November 29, 2022. This report presents the specific sampling methodology and results of this assessment. A summary of recommended response actions is presented at the end of **Section 4.0**.

1.2 Executive Summary

During the assessment of the subject area of the facility, the following observations were made:

- There was visible mold growth on the plywood subfloor in the south and north modular sections of the building. This includes the south side of the main activity room, the office

cubical, the kitchen area, the restrooms, the janitor's closet, and the storeroom. (Photos No. 2, 3, 4, 5, 6, 7, 8, 9, and 10).

- The ice machine, located next to the kitchen area, had visible mold growth in the interior of the unit. (Photo No. 11).
- There was an opening in the floor along the east side of the main room, the ground under the building was visible through the gap. (Photo No. 12).
- There are eight drains located on the roof (two in each corner). Each drain was blocked by leaf and organic debris allowing standing water to build-up on the flat deck membrane roof system. (Photos No. 13, 14, 15, and 16).
- There was moderate visible dust and debris build-up on the air diffuser vents located throughout the building. (Photo No. 17)
- There was moderate to heavy dust and debris build-up observed within the HVAC ductwork. (Photos No. 18).
- The plastic moisture barriers located under the UCC were damaged from previous plumbing and repair activities. (Photo No. 19)
- There was moderate visible dust build-up on flat surfaces (countertops, cabinets, shelving, etc.) within the subject area. This indicates that custodial services are adequate.
- There was evidence of insect intrusion observed during the assessment. Insect fragments located on the windowsills throughout the building. (Photo No. 20).

As part of the assessment, ambient conditions and air-borne fungi levels were measured with the following results:

- Temperature levels were within the recommended Federal guidelines.
- Relative humidity levels were within recommended Federal guidelines. (Please note that Federal standards recommend indoor humidity to be less than 65%, levels above 60% may contribute to mold growth).
- CO levels were within Federal Guidelines.
- CO₂ levels were within Federal Guidelines.
- Air-borne mold spore levels collected from within the UCC indicated low to active mold growth. Additionally, the results indicated that bio-amplification (a condition where indoor concentrations of spores are elevated relative to the outdoor concentrations) and bio-diversification (when mold spores detected indoors that are different from those found outdoors) did appear to be occurring within the subject area at the time of the assessment.

- The tape-lift samples collected within the UCC indicated rare levels (1 to 10), low levels (11 to 100), medium levels (101 to 1,000) and up to high levels (>1,000) of fungal spores. Fungal spores in the medium range indicate active fungal growth or elevated spores in the settled dust, while fungal spores in the high range indicate an area high contaminated with mold.

APTIM recommends that the following remedial actions be performed within the subject area:

- Have a Florida-licensed mold remediator clean and seal the mold-impacted and water-damaged plywood subfloor with a commercial grade biocide paint or replace the wood, as needed, in the south and north modular sections of the building. As this will require the removal of existing mold impacted vinyl floor tile (VFT), a Florida-licensed contractor or in-house maintenance staff should replace the removed VFT once remediation is completed.
- Have a Florida-licensed mold remediator clean the interior of the ice machine using non-toxic cleaners. Custodial personnel for the county should check the unit weekly for potential mold growth after cleaning.
- Have a Florida-licensed mold remediator clean the interior of the ductwork located in the UCC.
- Have a Florida-licensed mold remediator clean the exterior of the metal air diffuser vents located throughout the UCC.
- Have in-house maintenance staff repair the opening in the floor along the east wall of the building.
- Have in-house maintenance staff repair the damaged moisture barriers under the building to prevent mold growth and moisture intrusion.
- Have in-house maintenance staff clean the roof drains to allow proper drainage and prevent the build-up of standing water.
- Have in-house custodial service personnel clean the interior windowsills throughout the building.
- As a cost saving measure, Lake County may be able to have the interior flooring sealed using a commercial-grade biocide paint and a new plywood subfloor system installed over the existing flooring. Modifications to the existing doors would have to be made to clear the additional floor height. The sealing should be performed by a Florida-licensed mold abatement contractor, but once finished, in-house staff could perform the installation of the new floor system.

2.0 Methodology

2.1 Building Walk-Through, Observations, and Measurements

The project scope of work included the documentation of environmental conditions potentially affecting occupant comfort and health. Environmental condition measurements were collected from various areas within the facility and outside of the building.

During the walk-through, observations of the layout of the building and its constituents were noted.

2.2 Sampling Strategy

Besides the documentation of ambient environmental conditions, the sampling strategy included identification and measurement of selected microbiological organisms within the ambient air from four various locations within the subject area, as well as two exterior samples. Additionally, 12 tape-lift samples were collected from areas with visible mold growth or elevated levels of built-up dust and debris. Sample locations were selected during the assessment to represent areas that appeared to have the greatest impact on environmental conditions. Sample locations are shown on **Figure 2**.

2.3 Temperature, Humidity and Moisture Readings

During the data collection effort, ambient temperature, relative humidity, and the moisture readings were measured and recorded as part of the survey.

Ambient conditions were collected using a TSI Q-Trak Plus, a battery-operated meter capable of real-time measurements of temperature and humidity, as well as CO and CO₂. The unit is supplied already calibrated by the rental company. Ambient condition results are listed in **Table 1**. CO and CO₂ results are listed in **Table 2**.

During the assessment, it was reported by Don Glessner that the UCC had a previous roof leak, which had been repaired prior to this assessment.

While on site, moisture readings were taken of the drywall board perimeter walls (east, south, west, and north walls) and the plywood subfloor located under the VFT in various locations throughout the facility. Readings were obtained with a GE Protimeter Survey Master BLD 2000, a professional moisture meter. The hand-held moisture meter utilized an electro-conductivity sensor to measure the relative concentration of moisture within a given type of building material, usually wood or the wood moisture equivalent (WME) value of other nonconductive building materials.

The WME value is the theoretical moisture level that would be attained by wood that is in moisture equilibrium with the material being tested. Results were given as percent of moisture. The moisture meter is calibrated by the factory.

High moisture levels encourage mold growth and are indicative of building structural or mechanical problems. Readings higher than 20 percent indicate elevated moisture levels in building materials. Moisture readings are listed in **Table 3**.

2.4 Carbon Monoxide and Carbon Dioxide Monitoring

Using a TSI model Q-Trak Plus, a battery-operated meter capable of real-time measurements of CO and CO₂, readings were taken within selected areas from within the UCC and from the exterior of the building. Measurements are reported in parts per million (ppm). Measurements are listed in **Table 2**.

This method is widely and effectively used by industrial hygienists for screening purposes.

2.5 Airborne Microbiological Fungi Samples

The air samples for fungi analysis were collected using an EMS high-volume pump that pulled a known volume of ambient indoor or outdoor air through an Allergenco-D 37-millimeter (mm) spore trap cassette at a rate of 15 liters per minute (Lpm). The high-volume sample pumps were calibrated using a rotameter before and after each use. The spore trap cassette contains an adhesive-coated slide. Sample collection and handling procedures specified by the laboratory were followed and in accordance with the American Society for Testing and Materials (ASTM) standard D7391-09. Air samples were analyzed for fungi content, and the results were reported in spores per cubic meter of air (spores/m³).

Microbiological samples were collected using the appropriate collection techniques and sample media described above, then forwarded to EMSL in Orlando, Florida, for laboratory analyses. Laboratory analyses were performed under the supervision of Yessica Seeman, Regional Manager.

The sample locations were as follows:

Sample Identification	Sample Location	Sample Type
112922-01A	Southeast Corner	Nonviable Fungi
112922-02A	Southwest Corner	Nonviable Fungi
112922-03A	Northeast Corner	Nonviable Fungi
112922-04A	Northwest Corner	Nonviable Fungi

Sample Identification	Sample Location	Sample Type
112922-05A	Bldg. Exterior - South	Nonviable Fungi
112922-06A	Bldg. Exterior - North	Nonviable Fungi

Air sample results are listed in **Table 4**.

2.6 *Tape Lift Microbiological Fungi Sample*

Tape lift samples were collected using standard transparent tape that is placed on the target surface area and then transferred to a laboratory grade glass slide following the ASTM standard D7910. The American Industrial Hygiene Association (AIHA) has recommended that results be reported qualitatively as “Rare,” “Low,” “Medium,” or “High” amounts. The quantities associated with these designations are as follows:

- Rare denotes a minimal amount of spores (conidia) (1 to 10).
- Low denotes low amounts of settled spores (11 to 100).
- Medium denotes active fungal growth or elevated settled spores (101 to 1,000).
- High denotes an area that is highly contaminated with fungal spores (>1,000).

The tape lift microbiological samples were collected using the appropriate collection techniques and sample media, then forwarded to EMSL in Orlando, Florida, for laboratory analyses. Laboratory analyses were performed under the supervision of Yessica Seeman, Regional Manager.

The sample locations were as follows:

Sample Identification	Sample Location	Sample Type
112922-07TL	Office Cubicle Floor	Nonviable fungi
112922-08TL	South Side of Main Room – Floor East of the Main Door	Nonviable fungi
112922-09TL	South Side of Main Room – Floor West of the Main Door	Nonviable fungi
112922-10TL	West Side of Main Room – Floor Near the Storeroom	Nonviable fungi
112922-11TL	Storeroom Floor	Nonviable fungi
112922-12TL	Janitor’s Closet Floor	Nonviable fungi
112922-13TL	Men’s Restroom Floor	Nonviable fungi
112922-14TL	Lobby Floor	Nonviable fungi

Sample Identification	Sample Location	Sample Type
112922-15TL	Center of Main Room Floor	Nonviable fungi
112922-16TL	Women's Restroom Floor	Nonviable fungi
112922-17TL	Kitchen Floor	Nonviable fungi
112922-18TL	Interior of the Ice Machine	Nonviable fungi

Tape-lift sample results are listed in **Table 4**.

3.0 Data Collection Results

3.1 Building Walk-Through and Observations

The assessment of the UCC was to determine if potentially causative IAQ environmental factors were present within the selected areas located in the facility due to employee concerns.

The UCC consists of the following:

- The facility is a one-story, modular building consisting of four portable sections on concrete block piers and was built in 2003. The building encompasses approximately 3,584 SF. The assessment area contained a lobby area, main activity room, office cubicle, kitchen, storeroom, janitor's closet, and two restrooms. The building has a flat wood roof deck with a rubber membrane roof system. The exterior of the building has a Hardi-board exterior wall finish on a wood frame, with metal framed windows and doors. The interior finishes include drywall board wall and ceilings, vinyl baseboard and vinyl floor tiles on a plywood subfloor.

The four HVAC units (3.5-ton GrandAire units) which are located on the east side of the building, as well as the fiberglass ductwork were observed as part of this assessment.

The VFT, located throughout the building, was found to be clean; however, there was damage (cracking and lifting) from water intrusion to the plywood subfloor in the south and north sections of the building. Sections of VFT were removed and the plywood subfloor was observed, and moisture tested in 11 different locations throughout the building.

Flat surfaces within the subject area (countertops, cabinets, shelving, etc.) were found to have moderate dust/debris, indicating that custodial services are adequate.

The air diffuser vents, and the return air vents within the subject area noted to have moderate build-up of dust and debris.

Using a boroscope, the interior of the HVAC ductwork was observed to contain moderate to heavy dust and debris buildup.

There was an opening in the floor allowing access to the crawlspace under the building. This was located along the east wall in the center section of the Main Activity Room.

There were eight roof-mounted drains that were blocked by leaf and organic debris.

Visible mold growth was observed during the assessment in the following areas:

- There was visible mold growth on the plywood subfloors in the south and north modular sections of the building. This included the office cubicle, the south side of the main activity room, the storeroom, the janitor's closet, the lobby, the kitchen and the two restrooms.
- There was visible mold growth on the interior walls of the ice machine.

There was evidence of insect intrusion in the subject area at the time of the assessment (wing casings and insect fragments on the interior of the windowsills).

Photographs of the subject areas are provided in **Appendix A**. A floor plan of the subject area and a sample location map was developed and is included as **Figure 2**.

3.2 Temperature, Relative Humidity, and Moisture Readings

Temperature within the subject area ranged from 70.8 degrees Fahrenheit (°F) to 71.1 °F and averaged 70.9 °F. The temperature on the exterior of the building was 79.6 °F.

Temperatures within the subject area were within the levels that are considered typical of office space environments by the guidelines of the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) Standard 55-2017, Thermal Environmental Conditions for Human Occupancy. ASHRAE Standard 55-2017 published guidelines are intended to achieve ambient conditions that are “comfortable” for 80 percent of the occupants. The guidelines call for interior temperature levels to be between 68.0 °F and 76.0 °F, while the subject area's temperatures averaged 71.3 °F.

Relative humidity within the subject area ranged from 62.8 percent (%) to 64.7 % and averaged 63.5 %. The relative humidity on the exterior of the building was 51.6 %. Humidity levels within the subject area were within what is considered typical of office space environments by the guidelines of ASHRAE Standard 62.1-2016, Thermal Environmental Conditions for Human Occupancy. ASHRAE Standard 62.1-2016 calls for humidity levels to be less than 65% for facilities with mechanical dehumidifying equipment, while the subject area's humidity level averaged 63.5 %. However, in the absence of water intrusion, humidity levels above 60 % have the potential to contribute to mold growth. **Table 1** contains the ambient readings collected during this study.

During the assessment, a moisture meter was used to check the perimeter walls for elevated moisture readings. Additionally, sections of VFT were removed from selected areas within the building and the plywood subfloor was tested for elevated moisture readings. None of the tested

perimeter walls were found to have moisture levels greater than 20 percent during the time of the assessment (moisture levels ranged from 6 % to 8 % and averaged 6.8 %); however, the plywood subfloors were found to have areas of elevated moisture (moisture levels ranged from 12 % to 50 % and averaged 16.5 %). **Table 3** contains the moisture readings collected during this study.

3.3 Carbon Monoxide and Carbon Dioxide Monitoring Results

CO readings obtained from within the subject area were consistently 0.0 parts per million at the time of the assessment.

Exterior ambient CO reading was 0.0 ppm at the time of the assessment.

ASHRAE guidelines (62.1-2016) recommend that indoor CO levels should be less than 9 ppm. The Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) for CO is 50 ppm over an 8-hour time weighted average (TWA). The CO levels at the subject area were within the published guidelines and standards.

CO₂ readings within the subject area ranged from 526 ppm to 591 ppm and averaged 549.6 ppm.

Exterior ambient CO₂ readings were 440 ppm at the time of the assessment.

ASHRAE guidelines (62.1-2016) recommend that indoor CO₂ levels should be less than 1,000 ppm. The ASHRAE guidelines indicate that CO₂ levels greater than 700 ppm above the exterior levels ($440 + 700 = 1,140$ ppm) may be an indication that ventilation is inadequate. The OSHA PEL for CO₂ is 5,000 ppm over an 8-hour TWA. CO₂ levels at the subject area within the published guidelines and standards.

CO and CO₂ readings are summarized in **Table 2**.

3.4 Airborne Microbiological Fungi Sample Results

The airborne nonviable fungal counts within the UCC ranged from 1,545 spores/m³ to 2,131 spores/m³.

The airborne nonviable fungal count samples that were collected from the ambient outdoor air from the south and north sides of the UCC ranged from 2,110 spores/m³ to 6,961 spores/m³.

The fungal spores found in the air samples that were collected from selected areas within the UCC have the following characteristics:

- *Ascospores* – These include plant pathogens, saprobes, and decomposers. Commonly found during plant growing season and may aggravate allergies at high levels. (Results range: 20 to 200 spores/m³).
- *Aspergillus* – Normally found in soil, compost piles and decaying vegetation but can also be found in water-damaged buildings. *Aspergillus* can cause aspergillosis (coughing, difficulty breathing, and sinus congestion) in humans with compromised immune systems. (Results range: 570 to 1,900 spores/m³).
- *Basidiospores* – Fungi characterized by spores formed on *Basidia*. These include mushrooms, toadstools, boletes, wood fungi, and puffballs. Some species are edible. (Results range: 90 to 260 spores/m³).
- *Cercospora* – A widespread plant pathogen that causes leaf spot on many types of plants. (Results range: 7 to 20 spores/m³).
- *Cladosporium* – Widely found outdoors as plant pathogens, it is frequently found in outdoor air. It occurs indoors in either humid or damp locations and can be found in water-damaged building materials. This spore is only occasionally associated with disease in humans, normally a chronic subcutaneous infection. (Results range: 260 to 610 spores/m³).
- *Curvularia* – A common saprobe typically found in soil, plants, cereals, and cellulosic materials such as papers and archives. Some species are plant pathogens but can also appear indoors. It is a known allergenic and may cause infections in immune-compromised individuals. (Results range: 10 to 20 spores/m³).
- *Epicoccum* – A cosmopolitan saprobe isolated from air, soil, grain, seeds, textiles, paper products, and food materials. It can be a plant pathogen and is a common cause of leaf spots of various plants. It can be found in indoor environments, where it can grow under conditions of low humidity. It is a known allergen and is occasionally isolated from human skin and sputum. (Results range: 20 spores/m³).
- *Ganoderma* – A large, very hard, woody bracket fungi that grow on living and dead trees. Some species are common on oaks, chestnuts, and conifers such as hemlock, spruce, and pine. Many species are being investigated for possible medicinal uses. (Results range: 7 spores/m³).
- *Hyphal Fragment* – A portion of the fungal mycelium that does not have any spores or other diagnostic fungal structures and, therefore, could not be identified. (Results range: 90 to 200 spores/m³).
- *Myxomycetes* – These fungi are commonly called slime molds. These are not true fungi taxonomically. Some species are found in the soil, in decaying wood, or other organic

matter where they produce structures full of powdery resting spores. (Results range: 7 to 70 spores/m³).

- *Nigrospora* – A species that are common on plants, particularly in the tropics. Occasionally isolated from soil, air, and foodstuffs. (Results range: 7 to 20 spores/m³).
- *Penicillium* – Usually found indoors in air samples, in carpet, and on wallpaper and can be associated with water-damaged building materials. Some species are able to produce mycotoxins; however, human pathogenic responses are rare. (Results range: 570 to 1,900 spores/m³).
- *Peronospora* – A plant pathogen that produces mildew in berry producing plants and grapevines. (Results range: 7 spores/m³).
- *Pestalotia* – A species of endophytic fungus capable of breaking down and digesting polyurethane. Originally identified in 1880 in fallen foliage of common ivy (*Hedera helix*) in Buenos Aires, it also causes leaf spot in palm trees and can attack fruiting shrubs (strawberries and blueberries). (Results range: 7 spores/m³).
- *Pithomyces* – This genus is common in soil and on dead or decaying plant materials. Requires high moisture level for spore germination. (Results range: 20 to 40 spores/m³).
- *Spegazzinia* – This species comprises a very small proportion of the fungal biota. This mold spore naturally inhabits soil, trees, and plants, and is not normally found growing in indoor environments. No information is available regarding health effects or toxicity. Allergenicity of this mold specie has not been studied. (Results range: 20 spores/m³).
- *Sporidesmium* – A fungal spore normally found infesting dead plant matter, typically in pastures. (Results range: 7 spores/m³).

Airborne fungal results are detailed in **Section 4.4**. The data is summarized in **Table 4**, and copies of the laboratory analytical report and chain-of-custody record are provided in **Appendix B**.

3.5 Tape- Lift Microbiological Fungi Sample Results

Tape-lift sample (112922-07TL) results for microbial analysis collected inside the UCC (office cubical floor) indicated fungal levels in the high range (>1,000). The high spore concentration consisted primarily of *Phialophora*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-08TL) results for microbial analysis collected from the UCC (south side of building – floor east of main door) indicated fungal levels in the rare range (1 to 10) to the high range (>1,000). The rare spore concentrations consisted primarily of *Basidiospores*, *Hyphal Fragments*, *Insect Fragments* and *Myxomycetes*. The high spore concentrations consisted

primarily of *Phialophora*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-09TL) results for microbial analysis collected inside the UCC (south side of building – floor west of main door) indicated fungal levels from the rare range (1 to 10), and up to the high range (> 1,000). The rare spore concentrations consisted primarily of *Ascospores* and *Hyphal Fragments*. The high spore concentrations consisted primarily of *Aspergillus/Penicillium* and *Phialophora*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-10TL) results for microbial analysis collected inside the UCC (west side of building – floor to south of storeroom) indicated fungal levels from the rare range (1 to 10), the low range (11 to 100) and up to the high range (> 1,000). The rare spore concentrations consisted primarily of *Ascospores*, *Humicola*, and *Monodictys*. The low spore concentrations consisted primarily of *Hyphal Fragments*. The high spore concentrations consisted primarily of *Aspergillus/Penicillium*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-11TL) results for microbial analysis collected inside the UCC (storeroom floor) indicated fungal levels from the rare range (1 to 10) and up to the high range (> 1,000). The rare spore concentrations consisted primarily of *Ascospores*. Additionally, there were rare (1 to 10) levels of pollen as well in the sample. The high spore concentrations consisted primarily of *Aspergillus/Penicillium* and *Humicola*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-12TL) results for microbial analysis collected inside the UCC (janitor's closet floor) indicated fungal levels from the rare range (1 to 10), the low range (11 to 100) and up to the high range (> 1,000). The rare spore concentrations consisted primarily of *Basidiospores*. The low spore concentrations consisted primarily of *Aspergillus/Penicillium*. The high spore concentrations consisted primarily of *Humicola* and *Monodictys*. Additionally, there were high (>1,000) levels of pollen found in the sample. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-13TL) results for microbial analysis collected inside the UCC (men's restroom floor) indicated fungal levels from the low range (11 to 100), the medium range (101 to 1,000) and up to the high range (> 1,000). The low spore concentrations consisted primarily of *Hyphal Fragments*. The medium levels consisted primarily of *Phialophora*. The high spore

concentrations consisted primarily of *Aspergillus/Penicillium*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-14TL) results for microbial analysis collected inside the UCC (lobby floor) indicated fungal levels from the high range (> 1,000). The high spore concentrations consisted primarily of *Scopulariopsis/Microascus*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-15TL) results for microbial analysis collected inside the UCC (center of the main activity room floor) indicated fungal levels from the high range (> 1,000). The high spore concentrations consisted primarily of *Aspergillus*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-16TL) results for microbial analysis collected inside the UCC (women's restroom floor) indicated fungal levels from the rare range (1 to 10), the low range (11 to 100), the medium range (101 to 1,000) and up to the high range (>1,000). The rare spore concentrations consisted primarily of *Aspergillus/Penicillium*. The low spore concentrations consisted primarily of *Humicola*. The medium levels consisted primarily of *Monodictys* and *Phialophora*. The high spore concentrations consisted primarily of *Scopulariopsis/Microascus*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-17TL) results for microbial analysis collected inside the UCC (kitchen floor) indicated fungal levels from the low range (11 to 100) and up to the high range (>1,000). The low spore concentrations consisted primarily of *Hyphal Fragments*. The high spore concentrations consisted primarily of *Phialophora* and *Scopulariopsis/Microascus*. Concentrations of fungal spores in the high range indicate an area that is highly contaminated with fungal spores.

Tape-lift sample (112922-18TL) results for microbial analysis collected inside the UCC (inside walls of ice machine) indicated fungal levels from the low range (11 to 100), and up to the medium range (101 to 1,000). The low spore concentrations consisted primarily of *Ascospores* and *Aspergillus/Penicillium*. The medium levels consisted primarily of *Cladosporium*. Concentrations of fungal spores in the medium range indicate rare to low range indicate active fungal growth.

The fungal spores found in the tape-lift samples that were collected from selected areas within the UCC that are in the medium to high range have the following characteristics:

- *Aspergillus* – Normally found in soil, compost piles and decaying vegetation but can also be found in water-damaged buildings. *Aspergillus* can cause aspergillosis (coughing, difficulty breathing, and sinus congestion) in humans with compromised immune systems. (High levels).
- *Cladosporium* – Widely found outdoors as plant pathogens, it is frequently found in outdoor air. It occurs indoors in either humid or damp locations and can be found in water-damaged building materials. This spore is only occasionally associated with disease in humans, normally a chronic subcutaneous infection. (Medium levels).
- *Humicola* – A species that commonly occurs in soil, indoor environments, and compost habitats. This fungal type has been known to cause allergic reactions (sinusitis). (High levels).
- *Microascus* – A species that is usually found in soil and is a common agent of biodeterioration in decaying plants. It has been found to be an occasional agent of human nail infection. (High levels).
- *Penicillium* – Usually found indoors in air samples, in carpet, and on wallpaper and can be associated with water-damaged building materials. Some species are able to produce mycotoxins; however, human pathogenic responses are rare. (High levels).
- *Phialophora* – A parasitic fungi that attacks fruit and vegetables. Commonly found in soil and decaying plant matter. (High levels).
- *Scopulariopsis* – A saprobic, hyaline fungus found in the soil and on plant matter and on insects. It is rarely pathogenic to humans. (High levels).
- *Monodictys* – A rapidly growing fungus that produces a green to black colony. It can be isolated from air, soil, decaying plants, rotten wood, damp linoleum and damp paper. Human infections have not been reported (Medium to High levels).

Tape-lift fungal results are detailed in **Section 4.7**. The data is summarized in **Table 4**, and copies of the laboratory analytical report and chain-of-custody record are provided in **Appendix B**.

4.0 Conclusions and Recommendations

4.1 Conclusions from Walk-Through Observations

A cursory examination of the exterior of the UCC showed the facility to be generally in good condition but with several minor building envelope issues:

- There was an opening in the floor along the east side of the main room, the ground under the building was visible through the gap.
- There are eight drains located on the roof (two in each corner). Each drain was blocked by leaf and organic debris allowing standing water to build-up on the flat deck membrane roof system.
- The plastic moisture barriers located under the UCC were damaged from previous plumbing and repair activities.

The interior of the subject area within the UCC was found to be generally in good condition with the exception of the VFT located in the south and north modular sections of the building.

Flat surfaces within the subject area (countertops, cabinets, shelving, etc.) were found to have slight to moderate dust, indicating that custodial services are adequate.

The perimeter walls within the subject area had no observed locations with elevated moisture content (>20 %); however, the plywood subfloor in the south and north modular sections ranged from 18 % to 50 %.

The HVAC system was assessed as part of the survey and observations made of the air diffuser vents and the return air vents within the subject area did indicate moderate build-up of dust and debris on the vents and moderate dust and debris build-up within the HVAC ductwork.

Visible mold growth was observed during the assessment in the following locations:

- There was visible mold growth on the plywood subfloor in the south and north modular sections of the building. This includes the south side of the main activity room, the office cubical, the kitchen area, the restrooms, the janitor's closet, and the storeroom.
- The ice machine, located next to the kitchen area, had visible mold growth in the interior of the unit.

There was evidence of insect intrusion at the time of the assessment (wing casings and insect fragments on the windowsills).

4.2 Conclusions from Temperature, Relative Humidity, and Moisture Readings

The recorded range of interior air temperatures of 70.8 °F to 71.1 °F with an average of 70.9 °F within the subject area were within what is considered typical of office space environments by the ASHRAE guidelines (ASHRAE Standard 55-2017, Thermal Environmental Conditions for Human Occupancy). The ASHRAE guidelines are intended to achieve ambient conditions that are “comfortable” for 80 percent of the occupants. The guidelines call for interior temperature levels to be between 68.0°F to 76.0°F.

The recorded range of interior humidity readings of 62.8 % to 64.7 % with an average of 63.5 % within the subject area were within what is considered to be typical of office space environments and within the guidelines of ASHRAE Standard 62.1-2016. The guidelines call for interior humidity to be less than 65 % for buildings with dehumidifying equipment. However, humidity levels greater than 60% may contribute to mold growth.

The moisture readings that were obtained from the perimeter walls within the subject area were less than (<) than 20 %. Moisture readings in these ranges do not indicate moisture levels that would encourage mold growth. The moisture readings obtained from selected areas of the plywood subfloor ranged from 12 % and up to 50 %. Moisture readings above 20 % will encourage mold growth.

4.3 Conclusions from Carbon Monoxide and Carbon Dioxide Monitoring

CO readings obtained from subject consistently read at 0.0 ppm at the time of the assessment. The CO levels at the subject area were within the published guidelines and standards.

CO₂ readings within the subject area ranged from 526 ppm to 591 ppm and averaged 549.6 ppm. CO₂ levels were within the published guidelines and standards at the time of the assessment.

4.4 Conclusions from Airborne Microbiological Fungi Sampling

Results of the four indoor air samples from within the UCC that were collected using spore trap cassettes indicated that nonviable fungal concentrations measured from selected areas within the subject area were slightly less or equal to the concentrations of the two outdoor samples. (1,545 to 2,694 spores/m³ inside the UCC, 2,110 to 6,961 spores/m³ outside the building).

The results indicate that bio-amplification conditions existed at the time of the assessment within the subject area. Bio-amplification is a condition that occurs when indoor concentrations are elevated relative to the outdoor concentrations. Additionally, bio-diversification (mold types

detected indoors that are different than those found outdoors) did appear to be occurring in relatively small numbers within the subject area at the time of the assessment.

While there are no government-issued numerical standards for mold level interpretation, IAQ professionals often use the following **arbitrary** numbers, per species, for guidance in interpreting microbial results:

- <250 spores/m³ - Low/Normal
- 250-1,000 spores/m³ - Moderate/Borderline
- >1,000 spores/m³ - Active Growth/Sporulation
- >5,000 spores/m³ - Very Active Growth/Sporulation

The air samples collected from within the UCC indicated fungal spore levels in the low/normal range to active growth range.

4.5 Conclusions from the Tape-Lift Microbiological Fungi Sampling

Tape lift samples collected from selected areas within the UCC indicated results in the rare range (1 to 10 fungal spores), the low range (11 to 100 fungal spores), the medium range (101 to 1,000) and up to the high range (>1,000). Concentrations of fungal spores in the rare to low ranges do not normally indicate active fungal growth. However, fungal concentrations found in the medium to high range indicate areas highly contaminated with fungal spores.

4.6 Recommendations

APTIM recommends that the following remedial actions be performed within the subject area:

- Have a Florida-licensed mold remediator clean and seal the mold-impacted and water-damaged plywood subfloor with a commercial grade biocide paint or replace the wood, as needed, in the south and north modular sections of the building. As this will require the removal of existing mold impacted VFT, a Florida-licensed contractor or in-house maintenance staff should replace the removed VFT once remediation is complete.
- Have a Florida-licensed mold remediator clean the interior of the ice machine using non-toxic cleaners. Custodial personnel for the county should check the unit weekly for potential mold growth after cleaning.
- Have a Florida-licensed mold remediator clean the interior of the ductwork located in the UCC.
- Have a Florida-licensed mold remediator clean the exterior of the metal air diffuser vents located throughout the UCC.

- Have in-house maintenance staff repair the opening in the floor along the east wall of the building.
- Have in-house maintenance staff repair the damaged moisture barriers under the building to prevent mold growth and moisture intrusion.
- Have in-house maintenance staff clean the roof drains to allow proper drainage and prevent the build-up of standing water.
- Have in-house custodial service personnel clean the interior windowsills throughout the building.
- As a cost saving measure, Lake County may be able to have the interior flooring sealed using a commercial-grade biocide paint and a new plywood subfloor system installed over the existing flooring. Modifications to the existing doors would have to be made to clear the additional floor height. The sealing should be performed by a Florida-licensed mold abatement contractor, but once finished, in-house staff could perform the installation of the new floor system.

Limitations

Occupational Safety and Industrial Hygiene Services

Occupational safety and industrial hygiene consulting services provide an additional source of information regarding on-the-job safety of a particular property or facility. The material given to the CLIENT is a professional opinion and judgment, dependent upon APTIM, knowledge and information obtained during the course of performance of the services and information given to APTIM by the CLIENT.

Job hazards and site safety conditions may exist at the site which cannot be identified only by visual observation. Where the scope of services is limited to observations made during the site reconnaissance, interviews, and/or review of readily available reports and literature, any conclusions and/or recommendations are necessarily based in part on information supplied by others, the accuracy or sufficiency of which may not be independently reviewed by us.

No investigation is thorough enough to exclude the presence of all job hazards at a given site. Therefore, if no job hazards are identified during the job safety audit, such a finding should not be construed as a guarantee of the absence of such hazards on the property, but rather the results of services performed within the scope, limitations, and cost of the work performed.

Any opinions and/or recommendations presented apply to site conditions existing at the time of performance of services. We are unable to report on or accurately predict events which may impact the site following performance of the described services, whether occurring naturally or caused by external forces. We assume no responsibility for conditions we are not authorized to investigate, or conditions not generally recognized as unacceptable at the time services are performed.

We are not responsible for changes in applicable regulatory standards, practices, or regulations following performance of services.

Tables

Table 1
Ambient Condition Readings – Temperature and Relative Humidity

Umatilla Community Center
17107 Ball Park Road, Umatilla, Florida
November 29, 2022

Location	Average Temperature (°F)	Average Relative Humidity Percent (%)
Southeast Corner – Main Activity Room	70.9	63.4
Southwest Corner – Main Activity Room	71.1	62.8
Center of Main Activity Room	71.0	63.3
Northeast Corner – Main Activity Room	70.9	63.3
Northeast Corner – Main Activity Room	70.8	64.7
Building Exterior	79.6	51.6
ASHRAE Guidelines	68.5 - 76	20 - 65

Notes: ASHRAE - American Society of Heating, Refrigerating, and Air Conditioning Engineers - °F - degrees Fahrenheit

Table 2
CO and CO₂ Monitoring Readings
Umatilla Community Center
17107 Ball Park Road, Umatilla, Florida
November 29, 2022

Sample Location	Carbon Dioxide (CO₂) ppm	Carbon Monoxide (CO) ppm
Southeast Corner – Main Activity Room	526	0.0
Southwest Corner – Main Activity Room	552	0.0
Center of Main Activity Room	542	0.0
Northeast Corner – Main Activity Room	537	0.0
Northeast Corner – Main Activity Room	591	0.0
Building Exterior	440	0.0
ASHRAE Guidelines	1,140	9
OSHA PEL (TWA)	5,000	50

Notes;

CO – carbon monoxide

CO₂ – carbon dioxide

ppm – parts per million

ASHRAE - American Society of Heating, Refrigerating, and Air Conditioning Engineers

OSHA - Occupational Safety and Health Administration

PEL - permissible exposure limit

TWA – time-weighted average

Table 3
Moisture Readings

Umatilla Community Center
17107 Ball Park Road, Umatilla, Florida
November 29, 2022

Sample Number	Location	Average Moisture Content (%)
M-01	South Wall – East Side	8
M-02	South Wall – Center	8
M-03	South Wall – West Side	8
M-04	West Wall – South Side	6
M-05	West Wall – Center	6
M-06	West Wall – North Side	6
M-07	Storeroom – West Wall	8
M-08	Storeroom – North Wall	8
M-09	Men's Restroom – West Wall	8
M-10	Men's Restroom – North Wall	6
M-11	Lobby – North Wall	6
M-12	Women's Restroom – North Wall	8
M-13	Women's Restroom – East Wall	6
M-14	Kitchen – North Wall	6
M-15	Kitchen – East Wall	6
M-16	East Wall – North Side	8
M-17	East Wall - Center	6
M-18	East Wall – South Side	6
M-19	Office Cubical – Plywood Subfloor	50
M-20	Main Activity Room – Plywood Subfloor, SE Side	50
M-21	Main Activity Room – Plywood Subfloor, SE Center	40

Table 4
Airborne and Tape Lift Fungi Monitoring Results

Umatilla Community Center
17107 Ball Park Road, Umatilla, Florida
November 29, 2022

Sample Number	Location	Average Moisture Content (%)
M-22	Main Activity Room – Plywood Subfloor, SW Side	18*
M-23	Main Activity Room – Plywood Subfloor, Center East	12
M-24	Main Activity Room – Plywood Subfloor, Center of Room	16*
M-25	Main Activity Room – Plywood Subfloor, Center West	14
M-26	Kitchen – Plywood Subfloor	18*
M-27	Women's Restroom – Plywood Subfloor	25
M-28	Lobby – Plywood Subfloor	25
M-29	Men's Restroom – Plywood Subfloor	30
M-30	Janitor's Closet – Plywood Subfloor	50
M-31	Storeroom – Plywood Subfloor	25

Notes: **Bold type** indicates elevated moisture levels.

> greater than

* slightly elevated moisture levels – areas should be periodically checked

Table 4
Airborne and Tape Lift Fungi Monitoring Results

Umatilla Community Center
17107 Ball Park Road, Umatilla, Florida
November 29, 2022

Sample Number and Location	Sample Type	Results spores/m ³	Species/ spores/m ³
112922-01A Main Activity Room - Southeast Corner	Air Sample Fungi Nonviable	2,131	Ascospores 90
			Aspergillus/Penicillium group 1,300
			Basidiospores 90
			Cladosporium 520
			Curvularia 10
			Ganoderma 7
			Myxomycetes 40
			Pithomyces 20
			Nigrospora 7
			Peronospora 7
			Spegazzinia 20
			Hyphal Fragment 200
			Insect Fragments 70*
			Skin Fragments 2*
			Fibrous Particulate 1*
112922-02A Main Activity Room – Southwest Corner	Air Sample Fungi Nonviable	1,545	Ascospores 70
			Aspergillus/Penicillium group 570
			Basidiospores 200
			Cladosporium 610
			Curvularia 20
			Epicoccum 20
			Ganoderma 7
			Myxomycetes 7
			Pithomyces 7
			Cercospora 20
			Spegazzinia 7
			Sporidesmium 7
			Hyphal Fragment 200
			Skin Fragments 2*
			Fibrous Particulate 2*
112922-03A Main Activity Room – Northeast Corner	Air sample Fungi Nonviable	2,694	Ascospores 200
			Aspergillus/Penicillium group 1,900
			Basidiospores 100
			Cladosporium 370
			Curvularia 20
			Ganoderma 7
			Myxomycetes 70
			Nigrospora 20
			Pestalotia 7
			Hyphal Fragment 100
			Skin Fragments 2*
			Fibrous Particulate 2*

Table 4
Airborne and Tape Lift Fungi Monitoring Results

Umatilla Community Center
17107 Ball Park Road, Umatilla, Florida
November 29, 2022

Sample Number and Location	Sample Type	Results spores/m ³	Species/ spores/m ³
112922-04A Main Activity Room – Northwest Corner	Air sample Fungi Nonviable	1,697	Ascospores 20
			Aspergillus/Penicillium group 1,100
			Basidiospores 260
			Cladosporium 260
			Curvularia 10
			Myxomycetes 20
			Cercospora 7
			Spegazzinia 20
			Hyphal Fragment 90
			Skin Fragments 2*
			Fibrous Particulate 2*
112922-05A Building Exterior - South	Air sample Fungi Nonviable	6,961	Alternaria 40
			Ascospores 440
			Aspergillus/Penicillium group 590
			Basidiospores 1,100
			Bipolaris 10
			Cladosporium 3,780
			Curvularia 70
			Ganoderma 90
			Myxomycetes 280
			Pithomyces 20
			Cercospora 90
			Monodictys 260
			Nigrospora 40
			Oidium 20
			Peronospora 70
			Pestalotia 20
			Spegazzinia 7
			Sterigmatobotrys 20
			Tetraploa 7
			Torula 7
			Hyphal Fragment 40
			Pollen 220*
			Skin Fragments 2*
			Fibrous Particulate 2*

Table 4
Airborne and Tape Lift Fungi Monitoring Results

Umatilla Community Center
17107 Ball Park Road, Umatilla, Florida
November 29, 2022

Sample Number and Location	Sample Type	Results spores/m ³	Species/ spores/m ³
112922-06A Building Exterior - North	Air sample Fungi Nonviable	2,110	<div> <div>Ascospores</div> <div>220</div> <div>Aspergillus/Penicillium group</div> <div>90</div> <div>Basidiospores</div> <div>480</div> <div>Cladosporium</div> <div>1,000</div> <div>Curvularia</div> <div>20</div> <div>Ganoderma</div> <div>260</div> <div>Myxomycetes</div> <div>20</div> <div>Nigrospora</div> <div>40</div> <div>Hyphal Fragment</div> <div>40</div> <div>Pollen</div> <div>40*</div> <div>Skin Fragments</div> <div>2*</div> <div>Fibrous Particulate</div> <div>2*</div> </div>
112922-07TL Office Cubicle – Plywood Subfloor	Tape-Lift Fungi Nonviable	----	<div> <div>Phialophora</div> <div>High</div> </div>
112922-08TL Main Activity Room – Plywood Subfloor, SE Side	Tape-Lift Fungi Nonviable	----	<div> <div>Basidiospores</div> <div>Rare</div> <div>Myxomycetes</div> <div>Rare</div> <div>Phialophora</div> <div>High</div> <div>Hyphal Fragments</div> <div>Rare</div> <div>Insect Fragments</div> <div>Rare*</div> </div>
112922-09TL Main Activity Room – Plywood Subfloor, SE Center	Tape-Lift Fungi Nonviable	----	<div> <div>Ascospores</div> <div>Rare</div> <div>Aspergillus/Penicillium group</div> <div>High</div> <div>Phialophora</div> <div>High</div> <div>Hyphal Fragments</div> <div>Rare</div> </div>
112922-10TL Main Activity Room – Plywood Subfloor, SW Side	Tape-Lift Fungi Nonviable	----	<div> <div>Ascospores</div> <div>Rare</div> <div>Aspergillus/Penicillium group</div> <div>High</div> <div>Humicola</div> <div>Rare</div> <div>Monodictys</div> <div>Rare</div> <div>Hyphal Fragments</div> <div>Low</div> <div>Pollen</div> <div>Rare*</div> </div>
112922-11TL Storeroom – Plywood Subfloor	Tape-Lift Fungi Nonviable	----	<div> <div>Ascospores</div> <div>Rare</div> <div>Aspergillus/Penicillium group</div> <div>High</div> <div>Humicola</div> <div>High</div> <div>Pollen</div> <div>Rare*</div> </div>
112922-12TL Janitor's Closet – Plywood Subfloor	Tape-Lift Fungi Nonviable	----	<div> <div>Aspergillus/Penicillium group</div> <div>Low</div> <div>Basidiospores</div> <div>Rare</div> <div>Humicola</div> <div>High</div> <div>Monodictys</div> <div>High</div> <div>Pollen</div> <div>High*</div> </div>
112922-13TL Men's Restroom – Plywood Subfloor	Tape-Lift Fungi Nonviable	----	<div> <div>Aspergillus/Penicillium group</div> <div>High</div> <div>Phialophora</div> <div>Medium</div> <div>Hyphal Fragments</div> <div>Low</div> </div>

Table 4
Airborne and Tape Lift Fungi Monitoring Results

Umatilla Community Center
17107 Ball Park Road, Umatilla, Florida
November 29, 2022

Sample Number and Location	Sample Type	Results spores/m ³	Species/ spores/m ³	
112922-14TL Lobby – Plywood Subfloor	Tape-Lift Fungi Nonviable	----	Scopulariopsis/Microascus	High
112922-15TL Main Activity Room – Plywood Subfloor, Center of Room	Tape-Lift Fungi Nonviable	----	Humicola	High
112922-16TL Women's Restroom – Plywood Subfloor	Tape-Lift Fungi Nonviable	----	Aspergillus/Penicillium group Scopulariopsis/Microascus Humicola Monodictys Phialophora	Rare High Low Medium Medium
112922-17TL Kitchen – Plywood Subfloor	Tape-Lift Fungi Nonviable	----	Scopulariopsis/Microascus Phialophora Hyphal Fragment	High High Low
112922-18TL Interior Wall of Ice Machine	Tape-Lift Fungi Nonviable	----	Ascospores Aspergillus/Penicillium group Cladosporium	Low Low Medium

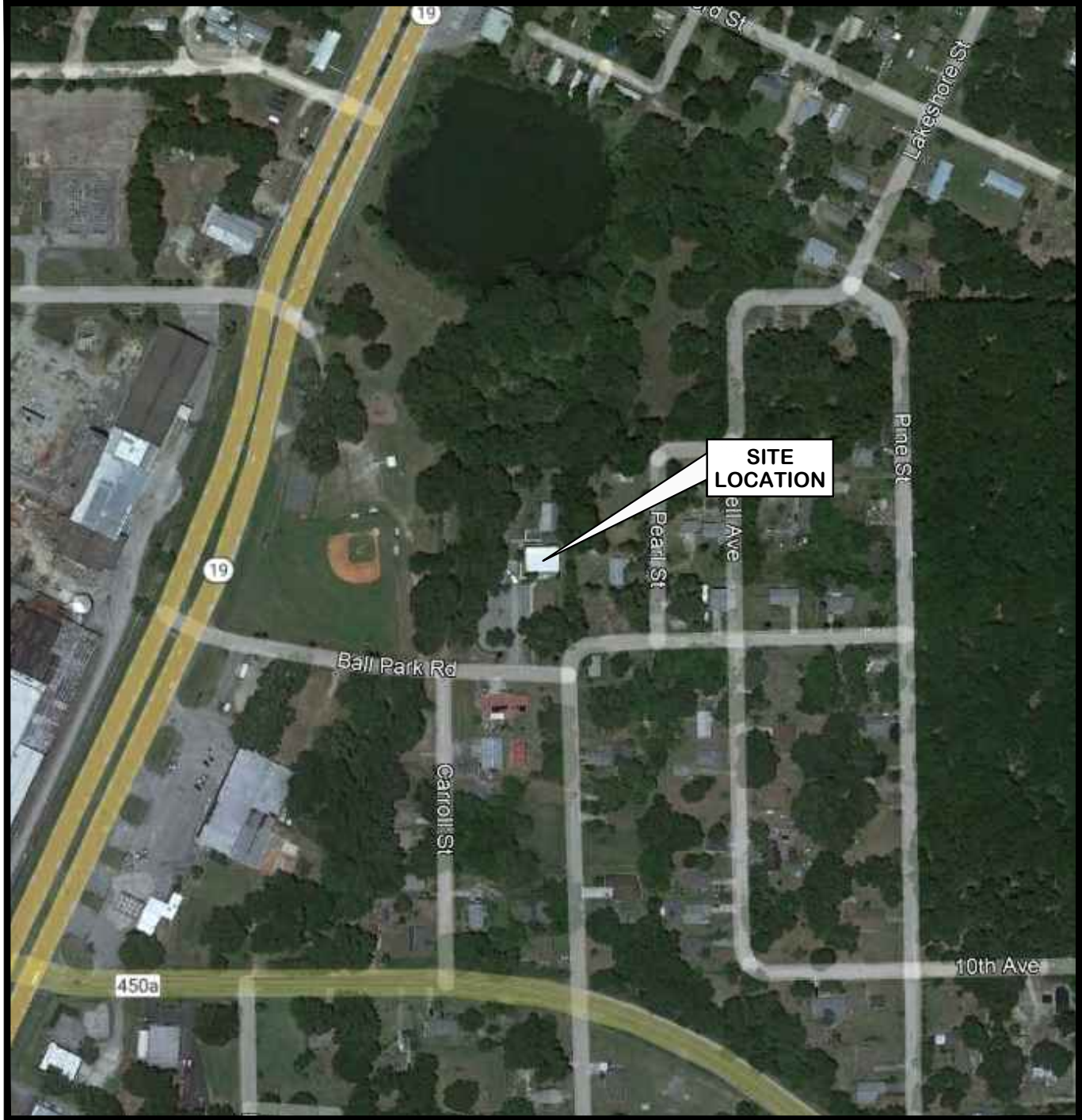
Notes:

spores/m³ – spores per cubic meter of air

Bold – indicates spore levels in the moderate to very active fungal growth

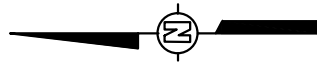
* - Not a fungal spore

Figures

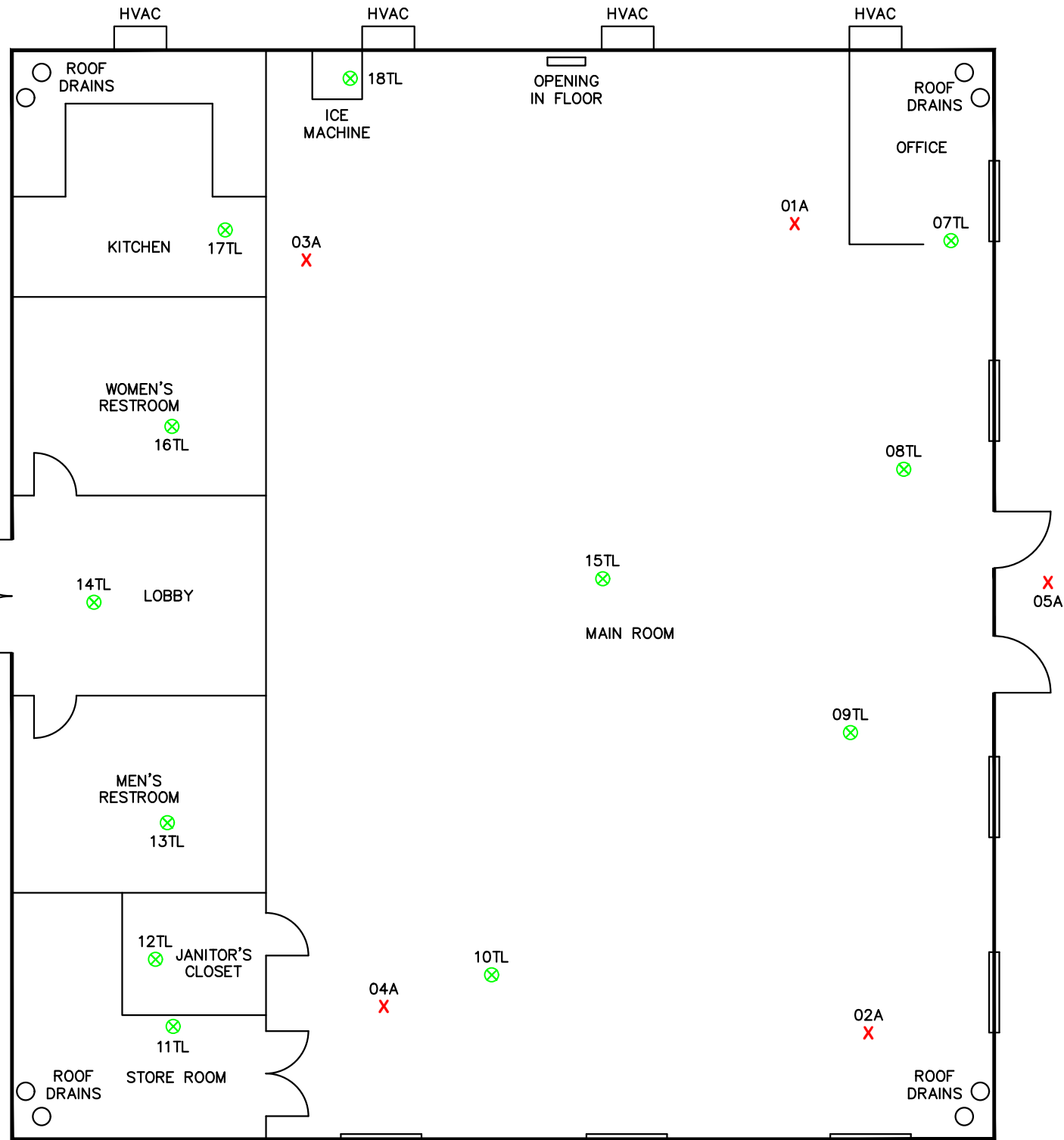


APTIM ENVIRONMENTAL &
INFRASTRUCTURE, LLC
1228 WINTER GARDEN
VINELAND ROAD
WINTER GARDEN, FLORIDA 34787
(407) 287-3200 OFFICE
(407) 287-3201 FAX

OFFICE: WINTER GARDEN	DATE: 12-5-22	ACAD FILE: 3227A1	
SITE LOCATION MAP			
CLIENT: LAKE COUNTY FACILITIES MANAGEMENT		PM: WD/MB	
LOCATION: UMATILLA COMMUNITY CENTER 17107 BALL PARK ROAD UMATILLA, LAKE COUNTY, FLORIDA			
DESIGNED: WZ	DRAWN: SDJF	PROJECT NO.: 631023227	FIGURE: 1



06A
X



LEGEND:

- X AIR SAMPLE LOCATION
- ⊗ TAPE LIFT SAMPLE

SCALE (FEET)
0 30 60



APTIM ENVIRONMENTAL & INFRASTRUCTURE, LLC
1228 WINTER GARDEN VINELAND ROAD
WINTER GARDEN, FLORIDA 34787
(407) 287-3200 OFFICE
(407) 287-3201 FAX

OFFICE: WINTER GARDEN	DATE: 11-30-22	ACAD FILE: 3227B1
SAMPLE LOCATION MAP NOVEMBER 29, 2022		
CLIENT: LAKE COUNTY FACILITIES MANAGEMENT	PM: WD/MB	
LOCATION: UMATILLA COMMUNITY CENTER 17107 BALL PARK ROAD UMATILLA, LAKE COUNTY, FLORIDA		
DESIGNED: WZ	DRAWN: SDJF	PROJECT NO.: 631023227
		FIGURE: 2

Appendix A

Photograph Log

**LAKE COUNTY UMATILLA COMMUNITY CENTER, UMATILLA,
FL**



PHOTO 1 – 11/29/2022
PHOTO SHOWING THE EXTERIOR OF THE LAKE COUNTY UMATILLA COMMUNITY
CENTER LOCATED AT 17107 BALL PARK ROAD, UMATILLA, FL.



PHOTO 2 – 11/29/2022
PHOTO SHOWING MOLD-IMPACTED PLYWOOD SUBFLOOR IN THE OFFICE CUBICLE.

**LAKE COUNTY UMATILLA COMMUNITY CENTER, UMATILLA,
FL**



PHOTO 3 – 11/29/2022
PHOTO SHOWING MOLD-IMPACTED PLYWOOD SUBFLOOR IN THE SOUTHEAST SIDE OF
THE MAIN ACTIVITY ROOM.



PHOTO 4 – 11/29/2022
PHOTO SHOWING MOLD-IMPACTED PLYWOOD SUBFLOOR IN THE SOUTH CENTER SIDE
OF THE MAIN ACTIVITY ROOM.

**LAKE COUNTY UMATILLA COMMUNITY CENTER, UMATILLA,
FL**



PHOTO 5 – 11/29/2022
PHOTO SHOWING MOLD-IMPACTED PLYWOOD SUBFLOOR IN THE STOREROOM.



PHOTO 6 – 11/29/2022
PHOTO SHOWING MOLD-IMPACTED PLYWOOD SUBFLOOR IN THE JANITOR'S CLOSET.

**LAKE COUNTY UMATILLA COMMUNITY CENTER, UMATILLA,
FL**



**PHOTO 7 – 11/29/2022
PHOTO SHOWING MOLD-IMPACTED PLYWOOD SUBFLOOR IN THE LOBBY.**



**PHOTO 8 – 11/29/2022
PHOTO SHOWING THE PLYWOOD SUBFLOOR IN THE CENTER OF THE MAIN ACTIVITY
ROOM.**

**LAKE COUNTY UMATILLA COMMUNITY CENTER, UMATILLA,
FL**



**PHOTO 9 – 11/29/2022
PHOTO SHOWING MOLD-IMPACTED PLYWOOD SUBFLOOR IN THE WOMEN'S
RESTROOM.**



**PHOTO 10 – 11/29/2022
PHOTO SHOWING MOLD-IMPACTED PLYWOOD SUBFLOOR IN THE KITCHEN.**

LAKE COUNTY ALTOONA FIRE STATION NO. 11, ALTOONA, FL
PHOTOGRAPHIC LOG



PHOTO 11 – 11/29/2022
PHOTO SHOWING VISIBLE MOLD GROWTH ON TH METAL WALLS OF THE ICE MACHINE.



PHOTO 12 – 11/29/2022
PHOTO SHOWING AN OPENING IN THE FLOOR OF THE EAST SIDE OF THE MAIN ACTIVITY ROOM.

LAKE COUNTY ALTOONA FIRE STATION NO. 11, ALTOONA, FL
PHOTOGRAPHIC LOG



PHOTO 13 – 11/29/2022
PHOTO SHOWING THE BLOCKED DRAINS AT THE NORTHEAST CORNER OF THE ROOF.



PHOTO 14 – 11/29/2022
PHOTO SHOWING THE BLOCKED DRAINS AT THE SOUTHEAST CORNER OF THE ROOF.

LAKE COUNTY ALTOONA FIRE STATION NO. 11, ALTOONA, FL
PHOTOGRAPHIC LOG



PHOTO 15 – 11/29/2022
PHOTO SHOWING THE BLOCKED DRAINS AT THE NORTHWEST CORNER OF THE ROOF.



PHOTO 16 – 11/29/2022
PHOTO SHOWING THE BLOCKED DRAINS AT THE SOUTHWEST CORNER OF THE ROOF.

**LAKE COUNTY UMATILLA COMMUNITY CENTER, UMATILLA,
FL**



PHOTO 177 – 11/29/2022
PHOTO SHOWING DUST AND CORROSION ON THE METAL AIR DIFFUSER VENTS.



PHOTO 18 – 11/29/2022
PHOTO SHOWING DUST AND DEBRIS BUILD-UP INSIDE THE FIBERGLASS DUCTWORK.

**LAKE COUNTY UMATILLA COMMUNITY CENTER, UMATILLA,
FL**



PHOTO 189 – 11/29/2022
PHOTO SHOWING OPENINGS IN THE MOISTURE BARRIER UNDER THE NORTH
MODULAR SECTION OF THE BUILDING.



PHOTO 190 – 11/29/2022
PHOTO SHOWING INSECT FRAGMENTS ON THE WINDOWSILL.

Appendix B
EMSL Laboratory Analytical Report and
Chain-of-Custody



EMSL Analytical, Inc.

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EMSL Order: 342226054

Customer ID: SHAE77

Customer PO:

Project ID:

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Phone: (904) 636-9360

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Collected Date: 11/29/2022

Received Date: 11/30/2022

Analyzed Date: 12/07/2022

Project: 631023227 Umatilla FL 32784

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	342226054-0001			342226054-0002			342226054-0003		
Client Sample ID:	112922 - 01A			112922 - 02A			112922 - 03A		
Volume (L):	150			150			150		
Sample Location:	SE Corner			SW Corner			NE Corner		
Spore Types	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total
Alternaria (Ulocladium)	-	-	-	-	-	-	-	-	-
Ascospores	4	90	4.2	3	70	4.5	7	200	7.4
Aspergillus/Penicillium	58	1300	61	26	570	36.9	88	1900	70.5
Basidiospores	4	90	4.2	7	200	12.9	6	100	3.7
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	24	520	24.4	28	610	39.5	17	370	13.7
Curvularia	2*	10*	0.5	1	20	1.3	1	20	0.7
Epicoccum	-	-	-	1	20	1.3	-	-	-
Ganoderma	1*	7*	0.3	1*	7*	0.5	1*	7*	0.3
Myxomycetes++	2	40	1.9	1*	7*	0.5	3	70	2.6
Pithomyces++	1	20	0.9	1*	7*	0.5	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	1	20	0.9	-	-	-	-	-	-
Cercospora++	-	-	-	1	20	1.3	-	-	-
Monodictys	-	-	-	-	-	-	-	-	-
Nigrospora	1*	7*	0.3	-	-	-	1	20	0.7
Oldium++	-	-	-	-	-	-	-	-	-
Peronospora++	1*	7*	0.3	-	-	-	-	-	-
Pestalotia++	-	-	-	-	-	-	1*	7*	0.3
Spegazzinia	1	20	0.9	1*	7*	0.5	-	-	-
Sporidesmium++	-	-	-	1*	7*	0.5	-	-	-
Sterigmatobotrys	-	-	-	-	-	-	-	-	-
Tetraploa	-	-	-	-	-	-	-	-	-
Torula++	-	-	-	-	-	-	-	-	-
Total Fungi	100	2131	100	72	1545	100	125	2694	100
Hyphal Fragment	7	200	-	9	200	-	5	100	-
Insect Fragment	3	70	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

Yessica Martinez Seeman, Florida Microbiology
Regional Manager

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Samples analyzed by EMSL Analytical, Inc. Orlando, FL AIHA LAP, LLC-EMLAP Accredited #163563

Initial report from: 12/07/2022 02:24 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

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Project: 631023227 Umatilla FL 32784

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Lab Sample Number:	342226054-0001	342226054-0002	342226054-0003
Client Sample ID:	112922 - 01A	112922 - 02A	112922 - 03A
Volume (L):	150	150	150
Sample Location:	SE Corner	SW Corner	NE Corner
Analyt. Sensitivity 600x	- 22 -	- 22 -	- 22 -
Analyt. Sensitivity 300x	- 7* -	- 7* -	- 7* -
Skin Fragments (1-4)	- 2 -	- 2 -	- 2 -
Fibrous Particulate (1-4)	- 1 -	- 2 -	- 2 -
Background (1-5)	- 2 -	- 2 -	- 2 -

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

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Regional Manager

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Project: 631023227 Umatilla FL 32784

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	342226054-0004			342226054-0005			342226054-0006		
Client Sample ID:	112922 - 04A			112922 - 05A			112922 - 06A		
Volume (L):	150			150			150		
Sample Location:	NW Corner			Exterior - South			Exterior - North		
Spore Types	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total
Alternaria (Ulocladium)	-	-	-	2	40	0.6	-	-	-
Ascospores	1	20	1.2	20	440	6.3	10	220	10.4
Aspergillus/Penicillium	49	1100	64.8	27	590	8.5	4	90	4.3
Basidiospores	12	260	15.3	52	1100	15.8	22	480	22.7
Bipolaris++	-	-	-	2*	10*	0.1	-	-	-
Chaetomium++	-	-	-	-	-	-	-	-	-
Cladosporium	12	260	15.3	173	3780	54.3	47	1000	47.4
Curvularia	2*	10*	0.6	3	70	1	1	20	0.9
Epicoccum	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	4	90	1.3	12	260	12.3
Myxomycetes++	1	20	1.2	13	280	4	1	20	0.9
Pithomyces++	-	-	-	1	20	0.3	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Cercospora++	1*	7*	0.4	4	90	1.3	-	-	-
Monodictys	-	-	-	12	260	3.7	-	-	-
Nigrospora	-	-	-	2	40	0.6	1	20	0.9
Oidium++	-	-	-	1	20	0.3	-	-	-
Peronospora++	-	-	-	3	70	1	-	-	-
Pestalotia++	-	-	-	1	20	0.3	-	-	-
Spegazzinia	1	20	1.2	1*	7*	0.1	-	-	-
Sporidesmium++	-	-	-	-	-	-	-	-	-
Sterigmatobotrys	-	-	-	1	20	0.3	-	-	-
Tetraploa	-	-	-	1*	7*	0.1	-	-	-
Torula++	-	-	-	1*	7*	0.1	-	-	-
Total Fungi	79	1697	100	324	6961	100	98	2110	100
Hyphal Fragment	4	90	-	2	40	-	2	40	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	10	220	-	2	40	-

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

No discernable field blank was submitted with this group of samples.

Yessica Martinez Seeman, Florida Microbiology
Regional Manager

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Collected Date: 11/29/2022

Received Date: 11/30/2022

Analyzed Date: 12/07/2022

Project: 631023227 Umatilla FL 32784

Test Report: Allergenco-D(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods MICRO-SOP-201, ASTM D7391)

Lab Sample Number:	342226054-0004	342226054-0005	342226054-0006
Client Sample ID:	112922 - 04A	112922 - 05A	112922 - 06A
Volume (L):	150	150	150
Sample Location:	NW Corner	Exterior - South	Exterior - North
Analyt. Sensitivity 600x	- 22 -	- 22 -	- 22 -
Analyt. Sensitivity 300x	- 7* -	- 7* -	- 7* -
Skin Fragments (1-4)	- 2 -	- 2 -	- 2 -
Fibrous Particulate (1-4)	- 2 -	- 2 -	- 2 -
Background (1-5)	- 2 -	- 2 -	- 2 -

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

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Collected Date: 11/29/2022

Received Date: 11/30/2022

Analyzed Date: 12/07/2022

Test Report: Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Tape Samples (EMSL Method MICRO-SOP-200)

Lab Sample Number: Client Sample ID: Sample Location:	342226054-0007 112922 - 07TL Office Floor	342226054-0008 112922 - 08TL South Side - East	342226054-0009 112922 - 09TL South Side - West	342226054-0010 112922 - 10TL West Side	342226054-0011 112922 - 11TL Store Room Floor
Spore Types	Category	Category	Category	Category	Category
Alternaria (Ulocladium)	-	-	-	-	-
Ascospores	-	-	Rare	Rare	Rare
Aspergillus/Penicillium	-	-	High	High	High
Basidiospores	-	Rare	-	-	-
Bipolaris++	-	-	-	-	-
Chaetomium++	-	-	-	-	-
Cladosporium	-	-	-	-	-
Curvularia	-	-	-	-	-
Epicoccum	-	-	-	-	-
Fusarium++	-	-	-	-	-
Ganoderma	-	-	-	-	-
Myxomycetes++	-	Rare	-	-	-
Pithomyces++	-	-	-	-	-
Rust	-	-	-	-	-
Scopulariopsis/Microascus	-	-	-	-	-
Stachybotrys/Memnoniella	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-
Zygomycetes	-	-	-	-	-
Aspergillus	-	-	-	-	-
Humicola++	-	-	-	Rare	*High*
Monodictys	-	-	-	Rare	-
Phialophora++	*High*	*High*	*High*	-	-
Hyphal Fragment	-	Rare	Rare	Low	-
Insect Fragment	-	Rare	-	-	-
Pollen	-	-	-	Rare	Rare
Fibrous Particulate	-	-	-	-	-

Sample Comment: 342226054-0010 - Aspergillus conidiophores present in sample.

Category: Count/per area analyzed - Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000

- Denotes Not Detected.

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

* = Sample contains fruiting structures and/or hyphae associated with the spores.

Yessica Martinez Seeman, Florida Microbiology
Regional Manager
or other Approved Signatory

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Test Report DEVER1-2.9.0 Printed 12/07/2022 02:24 PM



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Project: 631023227 Umatilla FL 32784

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Collected Date: 11/29/2022

Received Date: 11/30/2022

Analyzed Date: 12/07/2022

Test Report: Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Tape Samples (EMSL Method MICRO-SOP-200)

Lab Sample Number: Client Sample ID: Sample Location:	342226054-0012 112922 - 12TL Janitors Closet Floor	342226054-0013 112922 - 13TL Men's Rest Room Floor	342226054-0014 112922 - 14TL Lobby Floor	342226054-0015 112922 - 15TL Center Of Bldg	342226054-0016 112922 - 16TL Women's Rest Room Floor
Spore Types	Category	Category	Category	Category	Category
Alternaria (Ulocladium)	-	-	-	-	-
Ascospores	-	-	-	-	-
Aspergillus/Penicillium	Low	High	-	-	Rare
Basidiospores	Rare	-	-	-	-
Bipolaris++	-	-	-	-	-
Chaetomium++	-	-	-	-	-
Cladosporium	-	-	-	-	-
Curvularia	-	-	-	-	-
Epicoccum	-	-	-	-	-
Fusarium++	-	-	-	-	-
Ganoderma	-	-	-	-	-
Myxomycetes++	-	-	-	-	-
Pithomyces++	-	-	-	-	-
Rust	-	-	-	-	-
Scopulariopsis/Microascus	-	-	High	-	High
Stachybotrys/Memnoniella	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-
Zygomycetes	-	-	-	-	-
Aspergillus	-	-	-	*High*	-
Humicola++	*High*	-	-	-	Low
Monodictys	High	-	-	-	Medium
Phialophora++	-	Medium	-	-	Medium
Hyphal Fragment	-	Low	-	-	-
Insect Fragment	-	-	-	-	-
Pollen	High	-	-	-	-
Fibrous Particulate	-	-	-	-	-

Category: Count/per area analyzed - Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000

- Denotes Not Detected.

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

* = Sample contains fruiting structures and/or hyphae associated with the spores.

No discernable field blank was submitted with this group of samples.

Jessica Martinez Seeman, Florida Microbiology
Regional Manager
or other Approved Signatory

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Page 2 of 3



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Project: 631023227 Umatilla FL 32784

Test Report: Microscopic Examination of Fungal Spores, Fungal Structures, Hyphae, and Other Particulates from Tape Samples (EMSL Method MICRO-SOP-200)

Lab Sample Number:	342226054-0017	342226054-0018			
Client Sample ID:	112922 - 17TL	112922 - 18TL			
Sample Location:	Kitchen Floor	Ice Machine			
Spore Types	Category	Category			
Alternaria (Ulocladium)	-	-			
Ascospores	-	Low			
Aspergillus/Penicillium	-	Low			
Basidiospores	-	-			
Bipolaris++	-	-			
Chaetomium++	-	-			
Cladosporium	-	*Medium*			
Curvularia	-	-			
Epicoccum	-	-			
Fusarium++	-	-			
Ganoderma	-	-			
Myxomycetes++	-	-			
Pithomyces++	-	-			
Rust	-	-			
Scopulariopsis/Microascus	High	-			
Stachybotrys/Memnoniella	-	-			
Unidentifiable Spores	-	-			
Zygomycetes	-	-			
Aspergillus	-	-			
Humicola++	-	-			
Monodictys	-	-			
Phialophora++	High	-			
Hyphal Fragment	Low	-			
Insect Fragment	-	-			
Pollen	-	-			
Fibrous Particulate	-	-			

Category: Count/per area analyzed - Rare: 1 to 10 Low: 11 to 100 Medium: 101 to 1000 High: >1000

- Denotes Not Detected.

++ Includes other spores with similar morphology; see EMSL's fungal glossary for each specific category.

* = Sample contains fruiting structures and/or hyphae associated with the spores.

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Regional Manager
or other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Orlando, FL AIHA LAP, LLC-EMLAP Accredited #163563

Initial report from: 12/07/2022 02:24 PM

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

Test Report DEVER1-2.9.0 Printed 12/07/2022 02:24 PM

Page 3 of 3

EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Microbiology Chain of Custody

EMSL Order Number (Lab Use Only):

#342226054

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-0262

Company Name: APTIM			EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different if Bill to is Different note Instructions in Comments				
Street: 9143 Phillips Hwy #400			Third Party Billing requires written authorization from third party.				
City: Jacksonville	State/Province: FL		Zip/Postal Code: 32256		Country: USA		
Report To (Name): William Zukauskas			Telephone #: 904-5099662				
Email Address: william.zukauskas@aptim.com			Fax #:		Purchase Order:		
Project Name/Number: 631023227 <i>umathika</i>			Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email				
U.S. State Samples Taken: FL			Project Zip Code: 32784		Connecticut Samples: <input type="checkbox"/> Commercial <input type="checkbox"/> Residential		
Sterile, Sodium Thiosulfate Preserved Bottle Used: <input type="checkbox"/> Biocide Used in Source (specify): <input type="checkbox"/>							
Public Water Supply Samples: <input type="checkbox"/> Note: All results may automatically be reported to DOH if required by state.							
Turnaround Time (TAT) Options - Please Check							
<input type="checkbox"/> 3 Hour	<input type="checkbox"/> 6 Hour	<input type="checkbox"/> 24 Hour	<input type="checkbox"/> 48 Hour	<input type="checkbox"/> 72 Hour	<input type="checkbox"/> 96 Hour	<input checked="" type="checkbox"/> 1 Week	<input type="checkbox"/> 2 Week
Microbiology Test Codes							
M001 Air-O-Cell	M174 MoldSnap	M012 <i>Pseudomonas aeruginosa</i> (P/A***) M024 <i>Pseudomonas aeruginosa</i> (MFT*) M015 Heterotrophic Plate Count M017 Total Coliform & <i>E. coli</i> (Colilert P/A***) M018 Total Coliform & <i>E. coli</i> (MFT*) M114 Total Coliform & <i>E. coli</i> Enumeration (Colilert MPN**) M019 Fecal Coliform (MFT*) M020 Fecal <i>Streptococcus</i> (MFT*) M029 <i>Enterococci</i> (MFT*) M129 <i>Enterococci</i> (Enterolert P/A***) M180 Real Time qPCR-ERMI 36 Panel M025 Sewage Screen -Water (MFT*)			M115 Sewage Screen - Water (P/A***) M116 Sewage Screen - Water (MPN**) M117 Sewage Screen - Swab (P/A***) M013 Sewage Screen - Swab (MFT*) M133 Methicillin-resistant <i>Staph. aureus</i> (MRSA) M031 Rapid-growing non-TB <i>Mycobacteria</i> Detection & Enumeration M014 Endotoxin Analysis M044 Group Allergen (Cat, Dog, Cockroach, Dust Mite) Other See Analytical Price Guide <i>Legionella</i> Analysis Please use EMSL <i>Legionella</i> COC		
M041 Fungal Direct Examination M169 Pollen ID & Enumeration M280 Dust Characterization Level-1 M281 Dust Characterization Level-2 M005 Viable Fungi- Air Samples (Genus ID & Count) M006 Viable Fungi- Air Samples (Includes <i>Penicillium</i> , <i>Aspergillus</i> , <i>Cladosporium</i> , <i>Stachybotrys</i> Species ID & Count) M007 Culturable fungi - Surface Samples (Genus ID & Count) M008 Culturable fungi - Surface Samples (Includes <i>Penicillium</i> , <i>Aspergillus</i> , <i>Cladosporium</i> , <i>Stachybotrys</i> Species ID & Count) M009 Bacteria Culture Gram Stain & Count M010 Bacteria Count & ID - 3 Most Prominent M011 Bacteria Count & ID - 5 Most Prominent		*MFT= Membrane Filtration Technique **MPN= Most Probable Number ***P/A= Presence/Absence					
Name of Sampler:			Signature of Sampler:				
Sample #	Sample Location/Description	Sample Type	Potable/ NonPotable (Only for Waters)	Test Code	Volume/ Area	Date/Time Collected	Temperature (°C) (Lab Use Only)
Example A1	Kitchen Sink/Tap	Water	<input checked="" type="checkbox"/> P <input type="checkbox"/> NP	M017	100 mL	9/1/13 4:00 PM	
			<input type="checkbox"/> P <input type="checkbox"/> NP				
			<input type="checkbox"/> P <input type="checkbox"/> NP				
			<input type="checkbox"/> P <input type="checkbox"/> NP				
			<input type="checkbox"/> P <input type="checkbox"/> NP				
			<input type="checkbox"/> P <input type="checkbox"/> NP				
Client Sample # (s): 112922-01A - 112922-0872			Total # of Samples: 18		Samples Received Chilled? Yes / No		
Relinquished (Client): <i>Bill</i>			Date: 11/29/22		Time: 1700		
Received (Lab):			Date: 11/30		Time: 2120		
Comments/Special Instructions:							

Page 1 of 2

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this chain of custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Controlled Document - COC-34 Micro R8 11/14/2017



Microbiology Chain of Custody

EMSL Order Number (Lab Use Only):

#342226054

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-0262

Additional pages of the chain of custody are only necessary if needed for additional sample information.

Sample #	Sample Location/Description	Sample Type	Potable/NonPotable (Only for Waters)	Test Code	Volume/Area	Date/Time Collected	Temperature (°C) (Lab Use Only)
112922-08A	SE corner	Spore trap	<input type="checkbox"/> P <input type="checkbox"/> NP	11039	150L	11/29/22 1143	
03A	SW corner		<input type="checkbox"/> P <input type="checkbox"/> NP			1144	
03A	NE corner		<input type="checkbox"/> P <input type="checkbox"/> NP			1145	
04A	NW corner		<input type="checkbox"/> P <input type="checkbox"/> NP			1146	
05A	extension - South		<input type="checkbox"/> P <input type="checkbox"/> NP			1206	
06A	extension - North		<input type="checkbox"/> P <input type="checkbox"/> NP			1207	
07TL	office floor	Tap water	<input type="checkbox"/> P <input type="checkbox"/> NP	11091		134	
08TL	South side - East		<input type="checkbox"/> P <input type="checkbox"/> NP			1315	
09TL	South side - West		<input type="checkbox"/> P <input type="checkbox"/> NP			1319	
10TL	West side		<input type="checkbox"/> P <input type="checkbox"/> NP			1321	
11TL	Office Room floor		<input type="checkbox"/> P <input type="checkbox"/> NP			1324	
14TL	Janitor's closet floor		<input type="checkbox"/> P <input type="checkbox"/> NP			1331	
13TL	Men's Rest Room floor		<input type="checkbox"/> P <input type="checkbox"/> NP			1337	
14TL	Lobby floor		<input type="checkbox"/> P <input type="checkbox"/> NP			1352	
15TL	Center of Bldg		<input type="checkbox"/> P <input type="checkbox"/> NP			1359	
16TL	Women's Rest Room floor		<input type="checkbox"/> P <input type="checkbox"/> NP			1403	
17TL	Kitchen floor		<input type="checkbox"/> P <input type="checkbox"/> NP			1409	
18TL	Ice Machine		<input type="checkbox"/> P <input type="checkbox"/> NP			1412	
			<input type="checkbox"/> P <input type="checkbox"/> NP				
			<input type="checkbox"/> P <input type="checkbox"/> NP				
			<input type="checkbox"/> P <input type="checkbox"/> NP				
			<input type="checkbox"/> P <input type="checkbox"/> NP				
			<input type="checkbox"/> P <input type="checkbox"/> NP				
			<input type="checkbox"/> P <input type="checkbox"/> NP				

Comments/Special Instructions:

Page 2 of 2

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this chain of custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Controlled Document - COC-34 Micro R8 11/14/2017

Appendix C
Mold Assessor License and
Field Notes



Ron DeSantis, Governor

Melanie S. Griffin, Secretary



STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

MOLD-RELATED SERVICES LICENSING PROGRAM

THE MOLD ASSESSOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 468, FLORIDA STATUTES

ZUKAUSKAS, WILLIAM BRONIS

6370 BOLLING LANE
ELKTON FL 32033

LICENSE NUMBER: MRSA1765


EXPIRATION DATE: JULY 31, 2024

Always verify licenses online at MyFloridaLicense.com




Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Project/Task No.: <u>631023227</u>	
Technician Name: <u>Bill Zeller</u>	
Other: _____	
Client Name: _____	Contractor: _____
Site Name: <u>Umatilla Lake County Community Center</u>	Supervisor: _____
Building Name/No.: _____	Other: _____
Site Location/Rooms: _____	Notes: _____


INDUSTRIAL HYGIENE DAILY REPORT

Time	Daily Summary Of Activities	Date <u>11/29/22</u>
0615	Arr at office.	
	Land truck 103965.	
0637	depart office for site. - Umatilla Community Center c 17167 Bell Bank Rd, Umatilla, Lake County, FL 32784	
0922	arr at site - Bldg is 50' x 64' split system Hvac - 4 outside unit - "Grand Air" 4 trunks, flat roof - built in 2003. - Start paperwork. - do Bldg sketch	
0952	Done on Lake County on site - get down to Bldg. - inspect Bldg walls & ceiling - note on physical set floor	
	Note: Ice machine has mold growing on it.	
	Pop floor tiles in main room (end of the 4 - Bldg section) - Bldg is 4 64' x 64' portable Bldg	
	2 center section Hvac no visible mold growth	
	exterior units (North & South) Hvac visible mold growth	
	thruout out under 1x1 vft Plugs	
	collect moisture samples on walls - 6-8%	
	collect moisture samples on floor - 6-80%.	
	collect Paper 1st sample from 1st bathroom.	
	Set up 1st Calibrated Hvac volume pump at 15:00. comp. Return.	
	collect Air samples - 4 interior + 2 exterior.	
	Using Borescope - check interior of flat roof. - dust is visible to Hvac. dust build up.	
	dust on walls -	


Project/Task No.: <u>681023227</u>	
Technician Name: <u>Bill Zehner</u>	
Other: _____	
Client Name: <u>Rock County</u>	Contractor: _____ Supervisor: _____ Other: _____ Notes: _____
Site Name: <u>Windsor Community Center</u>	
Building Name/No.: _____	
Site Location/Rooms: _____	

INDUSTRIAL HYGIENE DAILY REPORT

Time	Daily Summary Of Activities	Date <u>11/29/22</u>
	Bldg 1195 Y Ground Area 3.5 ton HXK under - look new - clean, clean coils, no damage. interior ceiling good.	
	Note: there is a gap in the floor at wall edge - East wall.	
	Sample #2 A - Air sample TL - Top of 1st flr 112921-01A SE corner of Bldg	
	112921-02A SW corner of Bldg	
	112921-03A NE corner of Bldg	
	112921-04A NW corner of Bldg	
	112921-05A Extension South	
	112922-06A Extension North	
	112922-07TL Office Floor	
	112922-08TL South side - East of Door	
	112922-09TL South side - West of Door	
	112922-10TL West side Floor	
	112922-11TL Stock room Floor	
	112922-12TL Janitor's closet Floor	
	112922-13TL Main Rest Room Floor	

Project/Task No.: <u>681023227</u>	
Technician Name: <u>Bill Zelen</u>	
Other: _____	
Client Name: _____	Contractor: _____ Supervisor: _____ Other: _____ Notes: _____
Site Name: <u>Lafayette County</u>	
Building Name/No.: <u>Madison Community Center</u>	
Site Location/Rooms: _____	

INDUSTRIAL HYGIENE DAILY REPORT

Time	Daily Summary Of Activities	Date <u>11/19/22</u>
	<u>112922 - 147L Lobby Floor</u>	
	<u>112922 - 157L Center of Lobby Floor</u>	
	<u>112922 - 167L Window Rest Room 61</u>	
	<u>112922 - 177L Kitchen Floor</u>	
	<u>112922 - 187L inside of ice machine.</u>	
<u>1430</u>	<u>depart site -</u>	
	<u>stays at Park Ave to change equipment to 16112L</u>	
	<u>stays at 16112L to change equipment</u>	
<u>1722</u>	<u>Arr at office - unload truck.</u>	
		

Client Name:	<u>Lake County</u>	Proj/Task No.:	<u>63023227</u>
Site Name:	<u>Washita Community Center</u>	Date Collected:	<u>11/25/12</u>
Bldg Name/No.:	_____	Technician Name:	<u>B:11 Zuber</u>
Site Location/Rooms:	_____		

TEMPERATURE - RELATIVE HUMIDITY - CO2 - CO - COLLECTION DATA

LOCATION	TEMP * F	RH %	CO PPM	CO2 PPM
<u>SE corner</u>	<u>70.9</u>	<u>63.4</u>	<u>0.0</u>	<u>526</u>
<u>SW corner</u>	<u>71.1</u>	<u>62.8</u>	<u>0.0</u>	<u>557</u>
<u>Center of Bldg</u>	<u>71.6</u>	<u>63.3</u>	<u>0.0</u>	<u>541</u>
<u>NE corner</u>	<u>70.9</u>	<u>63.3</u>	<u>0.0</u>	<u>537</u>
<u>NW corner</u>	<u>70.8</u>	<u>64.7</u>	<u>0.0</u>	<u>591</u>
<u>Bldg exterior</u>	<u>79.6</u>	<u>51.6</u>	<u>0.0</u>	<u>---</u> <u>440</u>
<div> <div>HEADING KEY</div> <div> CO2 = carbon dioxide CO = carbon monoxide RH = relative humidity TEMP = temperature PPM = parts per million *F = Fahrenheit </div> </div>				
Instrument used:			Signature	
Name: <u>732 620X 501</u>			<u>[Signature]</u>	
Model #: <u>501</u>				

Labour countryUnstable Community Center

Proj/Task No.:

230428

Date Sampled:

11/25/11

Technician Name:

Bill Zisk

INDUSTRIAL HYGIENE (Air-o-Cell) AIR SAMPLE COLLECTION DATA

Sample Number	Pump ID Number	Sample Type	Sample Description and Location	SAMPLING PERIOD			FLOW RATE L/M			Total Volume	Contaminate
				Start	Stop	Total Min.	Start	Stop	Avg.		
1129-22-01A	9	Spm temp	SE corner	1133	1143	10	15	15	15	150	Metal Spinel
02A	13	↓	SW corner	1134	1144	10	15	15	15	150	Cyanide # 48733444 4873386 4873338 4873401 4873413 4873335
03A	15		NE corner	1135	1145	10	15	15	15	150	
04A	7		NW corner	1136	1146	10	15	15	15	150	
05A	9		exposure - South	1206	1216	10	15	15	15	150	
06A	12	↓	exposure - North	1207	1217	10	15	15	15	150	
HEADING KEY				CALIBRATION:							
L/m = Liters Per Minute				Rotameter <input checked="" type="checkbox"/>							
				Critical Orifice _____							
				Bubble Meter _____							
				Signature <u>Bull pen</u>							

Client Name: <u>Lake County</u> Site Name: <u>Unatilla Community Center</u> Bldg Name/No.: _____ Site Location/Rooms: _____	Proj/Task No.: <u>6302327</u> Date Sampled: <u>11/29/22</u> Technician Name: <u>Phil Zakarko</u>
--	--

INDUSTRIAL HYGIENE TAPE LIFT SAMPLE COLLECTION DATA

Sample Number	Sample Type	Sample Description and Location	Contaminate
112922 - 077L	type 1, 2	Office floor	
087L	↓	South side of Bldg - East of door	
097L		South side of Bldg - West of door	
107L		West side of Bldg - Floor Near Store Room	
117L		Store Room floor	
127L		Sanitary closet floor	
137L	↓	Men's Rest Room floor	
147L		Lobby floor	
157L		Center of Main Room floor	
167L		Women's Rest Room floor	
177L		Kitchen floor	
HEADING KEY			
			Signature <u>Beary</u> e


Client Name: <u>Lake County</u> Site Name: <u>Woodruff Community Center</u> Bldg Name/No.: _____ Site Location/Rooms: _____	Proj/Task No.: <u>63102 3227</u> Date Sampled: <u>11/29/22</u> Technician Name: <u>B. J. J. J.</u>
--	--

MOISTURE LEVEL READINGS

Sample Number	Sample Description and Location	Moisture Levels (%) Range	Moisture Levels (%) Average
M-01	South wall - East side		8%
M-02	South wall - center		8%
M-03	South wall - West side		8%
M-04	West wall - South side		6%
M-05	West wall - center		6%
M-06	West wall - North side		6%
M-07	Stair Room - West wall		8%
M-08	Stair Room - North wall		8%
M-09	Men's Rest Room - West wall		8%
M-10	Men's Rest Room - North wall		6%
M-11	Lobby - North wall		6%
Instrument Used:			
Name: _____			
Model: _____			
		Signature	

Client Name:	<u>Lake County</u>	Proj/Task No.:	<u>631023227</u>
Site Name:	<u>Umbria Community Center</u>	Date Sampled:	<u>11/29/22</u>
Bldg Name/No.:	_____	Technician Name:	<u>B. H. Zeller</u>
Site Location/Rooms:	_____		

MOISTURE LEVEL READINGS

Sample Number	Sample Description and Location	Moisture Levels (%) Range	Moisture Levels (%) Average
M-12	Woman's rest room - north wall		8%
M-13	woman's rest room - East wall		6%
M-14	Kitchen - North wall		6%
M-15	Kitchen - East wall		6%
M-16	East wall - North side		8%
M-17	East wall - Center		6%
M-18	East wall - South side		6%
M-19	Office - floor		50%
M-20	Main Room - SE side floor		50%
M-21	Main Room - South center floor		40%
M-22	Main Room - South west side floor		18%
Instrument Used:			
Name: _____			
Model: _____			
		Signature 	

Client Name: <u>Lake County</u> Site Name: <u>Uniohla Community Center</u> Bldg Name/No.: _____ Site Location/Rooms: _____	Proj/Task No.: <u>63103 3227</u> Date Sampled: <u>11/29/23</u> Technician Name: <u>Bill Zuber</u>
---	---

MOISTURE LEVEL READINGS

Sample Number	Sample Description and Location	Moisture Levels (%) Range	Moisture Levels (%) Average
M-23	main room center - East End Floor	12%	12%
M-24	main room center - Section Floor	16%	16%
M-25	main room center section - south end floor	18%	18%
M-26	Kitchen Floor	25%	25%
M-27	Women's rest room - Floor	25%	25%
M-28	Lobby Floor	30%	30%
M-29	Men's rest room Floor	50%	50%
M-30	Sanitary closet Floor	25%	25%
M-31	Store room Floor		
Instrument Used:		Name: _____	
		Model: _____	
		Signature: <u>Bill Zuber</u>	